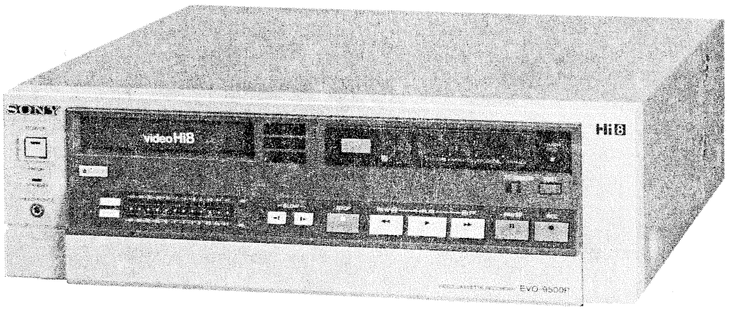
EVO-9500P

SERVICE MANUAL

AEP Model



SPECIFICATIONS

System

Video recording system	Rotary two-head flying erase head Herical scanning FM system
Audio recording system	Standard: Rotary head FM system (monaural) PCM: PCM system (2 channels)
Video signal	CCIR standards, PAL colour
Usable cassettes	8 mm format video cassettes
Tape speed	Approx. 20.051 mm/sec. (SP mode)
Maximum recording/playback time	1.5 hours (SP mode) (with Sony P5−90MP 8mm video cassette)
Fast-forward and rewind time	Approx. 3 min. (with Sony P5−90MP 8mm video cassette)

Inputs and Outputs

Video input	VIDEO IN (1) BNC connector Input signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
S VIDEO input	S VIDEO IN (1) 4-pin mini-DIN Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative Chrominance signal: 0.30 Vp-p, 75 ohms, unbalanced
Video output	VIDEO OUT, BNC connector (1), phono jack (1) Output signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
S VIDEO output	S VIDEO OUT (1) 4-pin mini-DIN Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative Chrominance signal: 0.30 Vp-p, 75 ohms, unbalanced
Horizontal resolution	Standard system: 240 lines (SP colour mode) Hi8 system: 400 lines
Video S/N	More than 45 dB (Colour mode)
Audio input	AUDIO IN (2) phono jack Input level: −7.5 dBs (0dBs = 0.775 Vrms) Input impedance: more than 47 kilohms
Audio output	AUDIO OUT Stereo output: phono jack (2) Standard impedance: −7.5 dBs at load impedance 47 kilohms monaural output: phono jack (1) Standard impedance: −5 dBs at load impedance 47 kilohms Output impedance: less than 2.2 kilohms

— Continued on next page —

Hi8 VIDEO CASSETTE RECORDER

SONY®

MICROFILM

Frequency response	Standard track: 30Hz – 15kHz PCM track: 20Hz – 15kHz
Audio S/N	More than 60 dB (SP mode)
Microphone input (monaural)	MIC (1) minijack – 65 dBs, for low-impedance microphone
Headphones output	HEADPHONES (1) stereo minijack for headphones
External sync input	VIDEO IN (BNC connector, used also as a video input) Input signal: 1 Vp-p, video signal
CONTROL P input	Phono jack (1) Input impedance: 47 kilohms
CONTROL P output	Phono jack (1)

General

Power requirement	220 – 240V AC, 50/60Hz
Power consumption	21 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	– 20°C to + 60°C (– 4°F to + 140°F)
Dimensions	Approx. 355 × 116 × 387 mm (w/h/d) (14 × 4⅝ × 15¼ inches)
Weight	Approx. 6.5 kg (14 lb 5 oz)
Supplied accessories	Cleaning cassette (1) AC power cord (1)

Optional Accessories

Remote Commander RM-S52 (wireless)
Remote control unit RM-S18 (wired)
Connecting cables

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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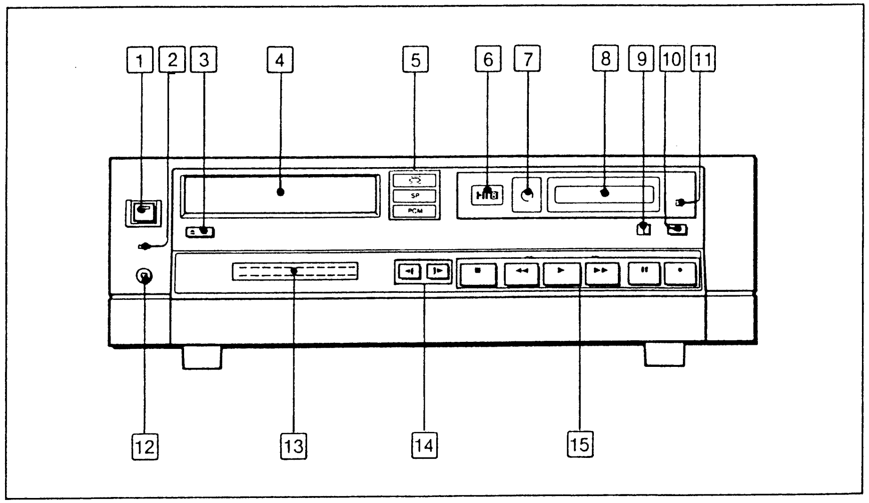
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location and Function of Parts and Controls

Refer to the pages indicated in ◯ for details.

Front Panel



1 **POWER ON/OFF switch and indicator**
Press to turn on the power. The indicator lights up when the power is on.

2 **STANDBY indicator**
Lights up when the power cord is connected to a wall outlet, and goes out when the power of the VTR is on.

3 **≜ EJECT button ⑬**
Press to remove the cassette.

4 **Cassette compartment**

5 **Indicators**

▭	Lights up when a cassette is in the cassette compartment.
SP	Lights up when the power is on, and goes out when the tape speed is in the LP (long play) mode or no signal is recorded on the tape.
PCM	Lights up when PCM sound is recorded on the tape or during PCM audio recording. ⑲

6 **Hi8 indicator**
Lights up when the power is on, and goes out when a tape recorded in the standard system is inserted or when the system used in recording cannot be determined.

7 **Remote sensor ㉞**
Point the RM-S52 Remote Commander (not supplied) here.

8 **Time counter display**
Displays the item selected by the TC COUNTER selector.

9 **TC (time code) COUNTER (reel counter) selector ⑱**

TC	Displays 8mm time code. " -- -- -- -- " will be displayed when no time code is recorded on the tape.
COUNTER	Displays the reel counter which increases as the tape advances. The display is reset to " 0000 " when you newly insert a cassette or when you unplug and plug in the power cord.

10 **RESET (counter reset) button ⑱**
Press to reset the reel counter to " 0000 ".

11 **TIMER REC indicator ㉖**
Lights up when the TIMER switch is set to REC with the power cord connected to a wall outlet and shows that the recording/playback cannot be operated.
It goes out when you unplug the power cord from a wall outlet.

12 **HEADPHONES jack** (stereo minijack)

13 **Audio level meters**

Recording	Audio recording level of the sound which is selected with the AUDIO OUTPUT SELECT switch (inside the front panel) is shown. **When AUDIO OUTPUT SELECT is set to STD or MIX** The monaural sound being recorded is displayed on both channels even when one of the REC LEVEL controls (L or R) is set to " 0 ".
Playback	Audio playback level of the sound which is selected with the AUDIO OUTPUT SELECT switch is shown.

14 **SLOW button ⑰**
Press for a slow-motion playback.

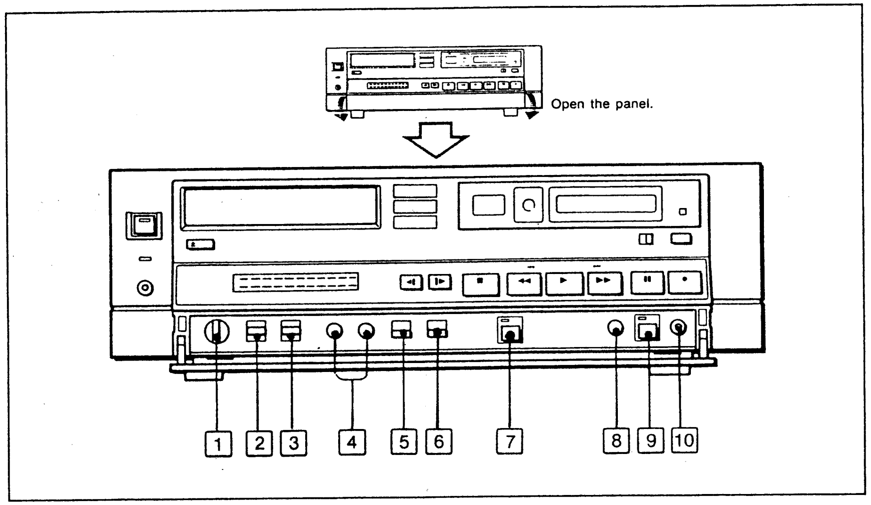
◀▮	Rewinds the picture at 1/5 normal speed. (Enters the stop mode approx. 40 seconds after to prevent damage to the tape.)
▮▶	Advances the picture at 1/5 normal speed.

15 **Tape transport buttons and indicators**
The indicator lights up during the corresponding operation.

■	STOP (no indicator)
◀◀	REW (rewind)
▶	PLAY (playback)
▶▶	FF (fast-forward)
❚❚	PAUSE
●	REC (recording)

Location and Function of Parts and Controls

Inside the Front Panel



1 **PHONE LEVEL (headphone level) control**

2 **AUDIO OUTPUT SELECT switch ⑲**
Select the sound to be monitored through headphones or the speaker of a video monitor.
PCM: To hear the PCM sound only.
MIX : To hear the PCM and standard sound mixed.
STD : To hear the standard sound only. (monaural)

3 **TIMER switch ㉖ ㉗**
Set to REC or PLAY to start/stop recording or playback at a specified time when an external timer is connected.
Normally set to OFF.

4 **REC LEVEL controls ㉓**

5 **AUTO REPEAT switch ⑳**
Set to ON to repeat playback automatically from the beginning of the tape to the end of a recording.
Normally set to OFF.

6 **INPUT SELECT switch ㉓**
Select the ordinary video input signal or the S video input signal.

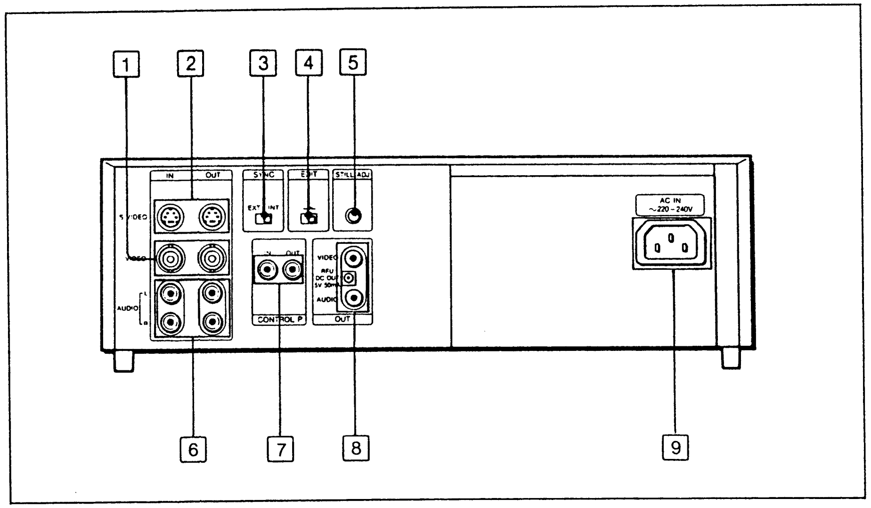
7 **8 mm TIME CODE WRITE button and indicator ㉕**
Press to record the time code on the tape in the cassette compartment. The indicator blinks during pre-roll prior to time code recording. During time code recording, the indicator on the button lights.

8 **SLOW ADJ (slow adjust) control ⑰**
Turn to adjust the picture if streaks appear during the slow-motion playback.

9 **AUDIO DUB (audio dubbing) button and indicator ㉝**
Press to record additional music or narration.

10 **MIC (microphone) jack** (minijack) ㉜
Connect a microphone with a miniplug.

Rear Panel



1 **VIDEO IN/OUT (input/output) connectors** (BNC type)

2 **S VIDEO IN/OUT (input/output) connectors**
(4-pin mini-DIN)
Accept or supply S video signals. Use a commercially available S VIDEO connecting cable.

3 **SYNC INT/EXT (sync signal internal/external) selector**
Set to EXT to play back in synchronization with the external device. Normally set to INT.

4 **EDIT switch ㉘**

5 **STILL ADJ (still adjust) control ⑰**
Turn to adjust a still picture.

6 **AUDIO IN/OUT (input/output) jacks** (phono type, stereo)

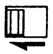
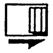
7 **CONTROL P IN/OUT (input/output) jacks**
(phono type) ㉞ ㉟
Connect the RM-S18 wired remote control unit (not supplied). Also using the CONTROL P connection, you can operate a number of EVO-9500P units simultaneously.

8 **VIDEO/AUDIO OUT (output) jacks** (phono type) ⑭ ⑮
Supply the video and audio (monaural) output signals. To connect a TV without video and audio inputs, use the commercially available RFU-89EA RFU adaptor.

9 **AC IN (AC inlet)**
Connect the supplied power cord.

Using the Tape Counter

You can switch the 8mm time code display and the reel counter display using the TC COUNTER selector as follows:

Item to be displayed	**TC COUNTER**
8mm time code recorded on the tape	TC COUNTER 
Counter for tape travel	TC COUNTER 

To reset the reel counter display to "0000"

Press the RESET button.
It is useful to reset the reel counter at the beginning of the tape, and write down the content and the counter reading.

What is the "-- -- -- --" indication?

It will be displayed when you set the TC COUNTER selector to TC in the stop, fast-forward, or rewind mode, or while playing back a tape without the 8mm time code.

What is a Time Code?

Each scene recorded on a tape can be numbered in units of frame (1/25 second) by the hour, minute, second and frame.
This is a time code.
The time code is automatically recorded on a tape during recording with this VTR, or it can be recorded separately by using the 8 mm TIME CODE WRITE button.
You can use the recorded time code to locate the playback start/end points. You can also use it to carry out programme editing and insert editing on the EVO-9800P.

Important
The time code used in this unit is the special 8 mm format time code for institutional products.

To record the 8 mm time code
See the pages 24 and 25.

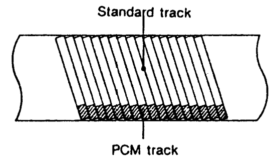
Monitoring the Picture of a Video Camera

Connect a video camera to the VIDEO (or S VIDEO) IN connector of the VTR and make the appropriate settings for the picture of the camera.
The picture is automatically switched to that of the camera when the VTR enters the rewind or stop mode. This is useful together with the AUTO REPEAT function (page 20) when showing a "how to" tape in a public place, for example.

Playing Back an Audio Dubbed Tape

You can select the monitor sound recorded on the PCM track of the tape, such as narration or music, with the AUDIO OUTPUT SELECT switch.
For recording, see "Audio Dubbing" on page 32.

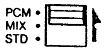
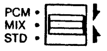
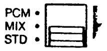
Audio recording pattern on a video tape



Playing back a stereo-recorded tape

Set the AUDIO OUTPUT SELECT switch to PCM.
You can monitor the stereo sound recorded on the PCM track of the tape.
When monitoring the monaural sound, set the switch to STD.

To select the monitor sound

Track to be played back	**AUDIO OUTPUT SELECT**
PCM only	
PCM and standard, mixed	
Standard only	

When a TV without video/audio inputs is connected
Connect your stereo system to this VTR to monitor the stereo sound.

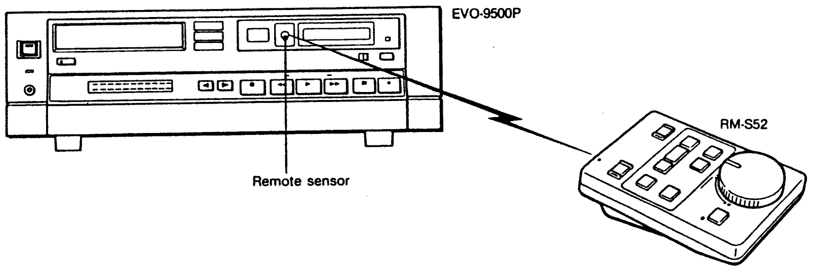
If the sound is not heard or the PCM indicator blinks
When you set the AUDIO OUTPUT SELECT switch to PCM while playing back a tape recorded on a video camera recorder or a video cassette deck without the PCM function, the sound may not be heard or heard only intermittently, or the PCM indicator may blink. If this happens, set the AUDIO OUTPUT SELECT switch to STD.
The PCM indicator may still blink, but it does not affect the sound.

Others

Remote Control Operation

Using the RM-S52 wireless Remote Commander (not supplied)

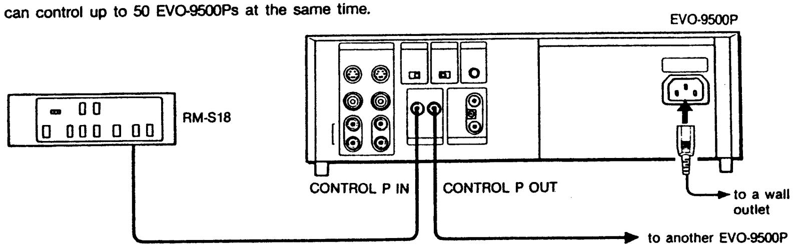
You can control the EVO-9500P from a distance.


EVO-9500P
RM-S52
Remote sensor

For details, refer to the instruction manual of the RM-S52.

Using the RM-S18 wired remote control unit (not supplied)

You can control up to 50 EVO-9500Ps at the same time.


EVO-9500P
RM-S18
CONTROL P IN
CONTROL P OUT
to a wall outlet
to another EVO-9500P

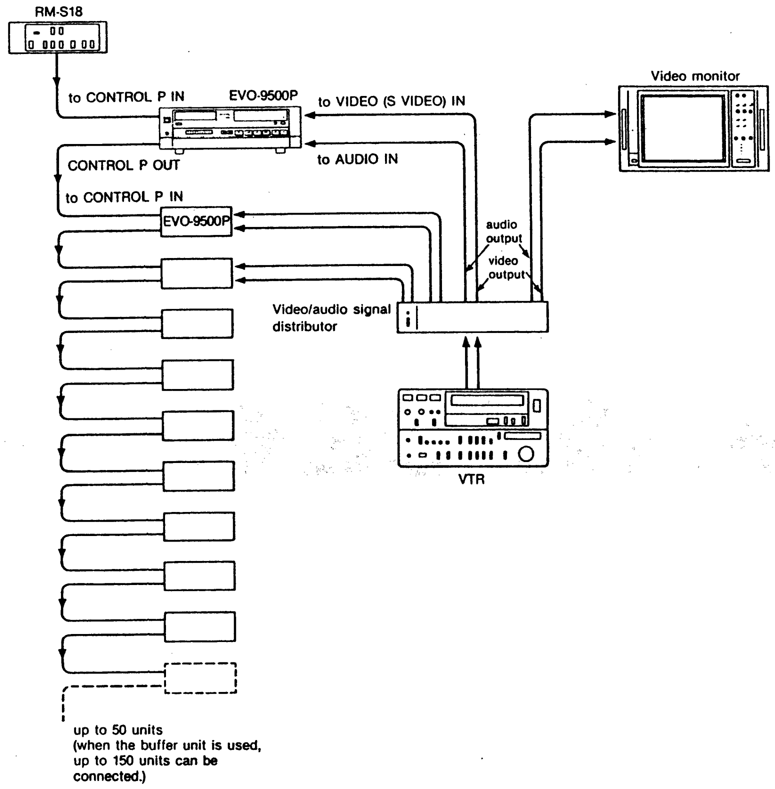
For details, refer to the instruction manual of the RM-S18.

Note

When the RM-S18 is connected to the CONTROL P IN jack of the VTR, you can no longer control the VTR with the RM-S52.

Tape Duplication System

You can make a tape duplication system by connecting a number of EVO-9500Ps with the RM-S18 wired remote control unit (not supplied) as illustrated.
Using this system, you can produce a number of recorded tapes at a time.


RM-S18
to CONTROL P IN
EVO-9500P
to VIDEO (S VIDEO) IN
Video monitor
CONTROL P OUT
to AUDIO IN
to CONTROL P IN
EVO-9500P
audio output
video output
Video/audio signal distributor
VTR
up to 50 units
(when the buffer unit is used, up to 150 units can be connected.)

For detailed connection and operation, consult your Sony dealer.

Hi8 (High Eight) Video System

Features of the Hi8 Video System

The 8 mm video system employs a high-grade metal powder tape which allows the video cassette recorder to record a large amount of information and enhance picture quality. The Hi8 video system has been developed, taking advantage of the 8 mm video system. The main characteristics of the Hi8 are as follows:

Super High Quality Picture

The information capacity is a key element for picture improvement. It can be increased by shifting up the FM carrier frequency range. In the Hi8 video system, the FM carrier frequency range of the luminance signal is shifted up to 5.7—7.7 MHz. This is higher than the 4.2—5.4 MHz range of the standard 8 mm video system. Thanks to this, the horizontal resolution is improved to more than 400 lines.

Use of High-Grade Tape Corresponding to the Hi8 Video System

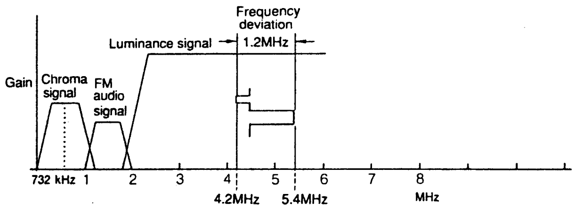
Metal evaporated tape is ideal for video systems because it has large magnetic energy that allows for high-density recording. The Hi8 video cassette recorder uses such high-grade tape for the Hi8 video system, covering a wide frequency range, to achieve a high-quality video signal for recording/playback.

S VIDEO (Separated Luminance/ Chrominance Signal) Input/Output Connectors

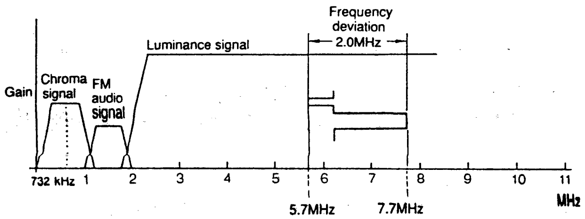
Conventionally, video equipment uses the composite video signal containing the luminance (Y) signal and the chrominance (C) signal mixed. The composite video signal is liable to produce interference resulting in picture quality loss. On the contraty, the S VIDEO connector transmits or receives the video signal separated into the luminance signal and the chrominance signal. Flickers and color blur in the picture are minimized with the separated video signal, and sharpness is enhanced to such an extent that hair-fine stripes are clearly visible. The S VIDEO connector also assures an excellent editing quality with minimum picture quality loss.

Difference in Frequency Allocation

Standard video system



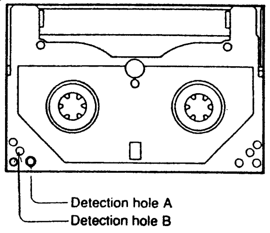
Hi8 video system



Hi8 Cassette Tape

The newly developed Hi8 ME and Hi8 MP cassette tapes with high durability feature characteristics best suiting Hi8 video system recording/playback. Hi8 cassettes have a detection hole on the bottom of the cassette shell to automatically set Hi8 VTRs in the Hi8 video system mode for recording.

Cassette	Detection hole A	Detection hole B
Hi8ME	open	closed
Hi8MP	closed	open
Standard MP	closed	closed



Automatic Switching of the System According to the Cassette Tape

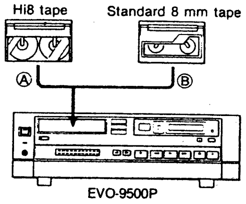
The VTR switches the recording/playback system (Hi8 system or standard system) automatically according to the cassette tape being used.

Recording

When using a Hi8 cassette tape for recording, the VTR senses the detection holes on the cassette shell (see above), and automatically performs the recording in the SP (standard play) mode of the Hi8 video system. When using a standard 8 mm tape, the recording is performed using the standard 8 mm video system.

Ⓐ Recording in the Hi8 video system

Ⓑ Recording in the standard 8 mm video system



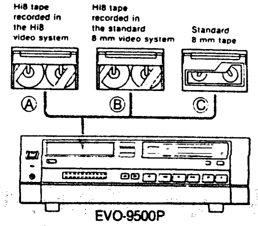
Playback

In playback, the VTR can detect the system mode used in recording by verifying the recorded signal, and plays back the tape in the appropriate mode.

Ⓐ Playback in the Hi8 video system

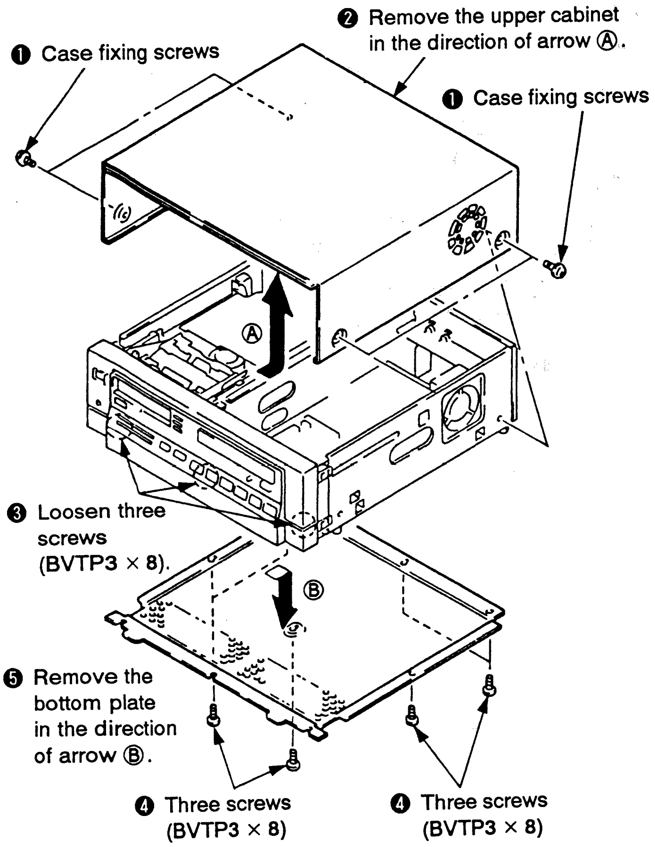
Ⓑ Playback in the standard 8 mm video system

Ⓒ Playback in the standard 8 mm video system

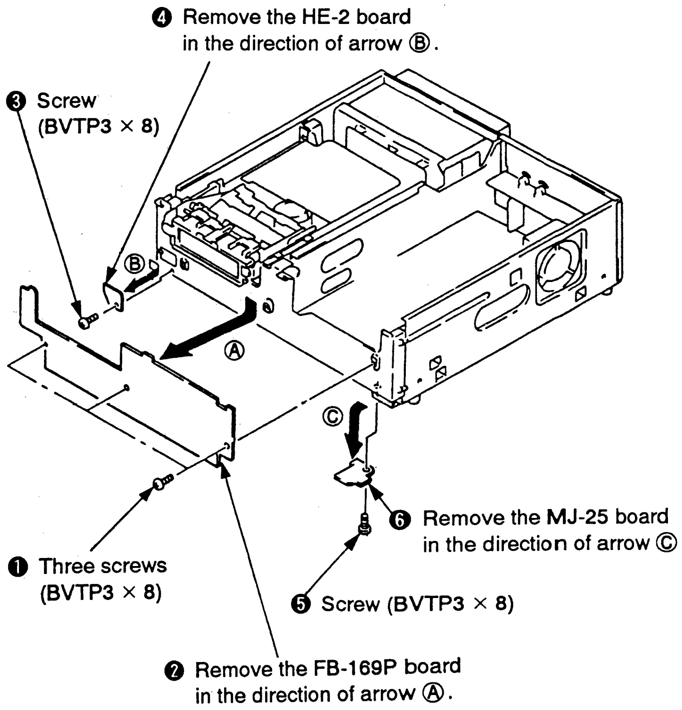

Hi8 tape recorded in the Hi8 video system
Hi8 tape recorded in the standard 8 mm video system
Standard 8 mm tape
Ⓐ
Ⓑ
Ⓒ
EVO-9500P

SECTION 2
DISASSEMBLY

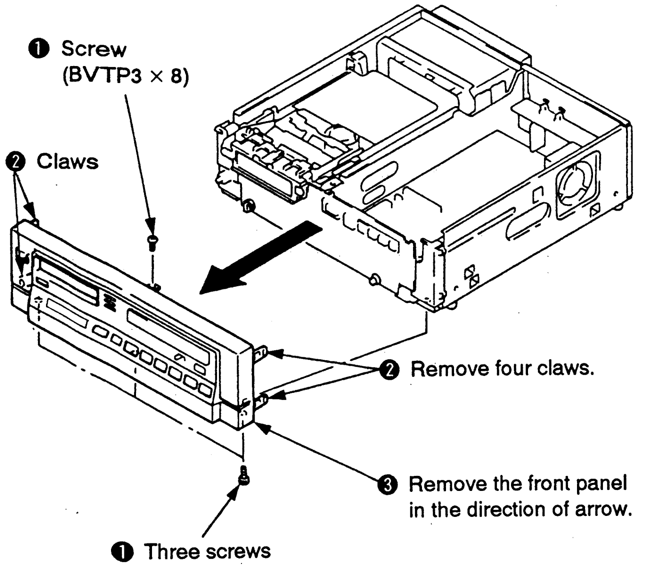
2-1. REMOVAL OF CABINET


❶ Case fixing screws
❷ Remove the upper cabinet in the direction of arrow Ⓐ.
❶ Case fixing screws
Ⓐ
❸ Loosen three screws (BVTP3 × 8).
Ⓑ
❺ Remove the bottom plate in the direction of arrow Ⓑ.
❹ Three screws (BVTP3 × 8)
❹ Three screws (BVTP3 × 8)

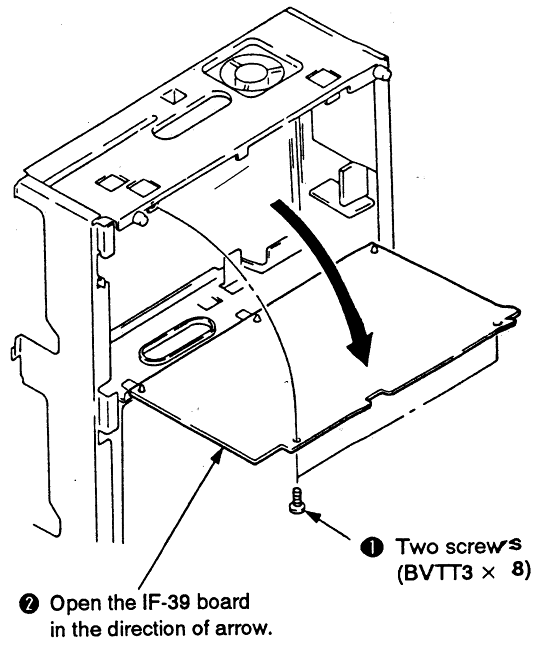
2-3. REMOVAL OF FB-169P, HE-2, MJ-25 BOARDS


❹ Remove the HE-2 board in the direction of arrow Ⓑ.
❸ Screw (BVTP3 × 8)
Ⓑ
Ⓐ
Ⓒ
❻ Remove the MJ-25 board in the direction of arrow Ⓒ
❶ Three screws (BVTP3 × 8)
❺ Screw (BVTP3 × 8)
❷ Remove the FB-169P board in the direction of arrow Ⓐ.

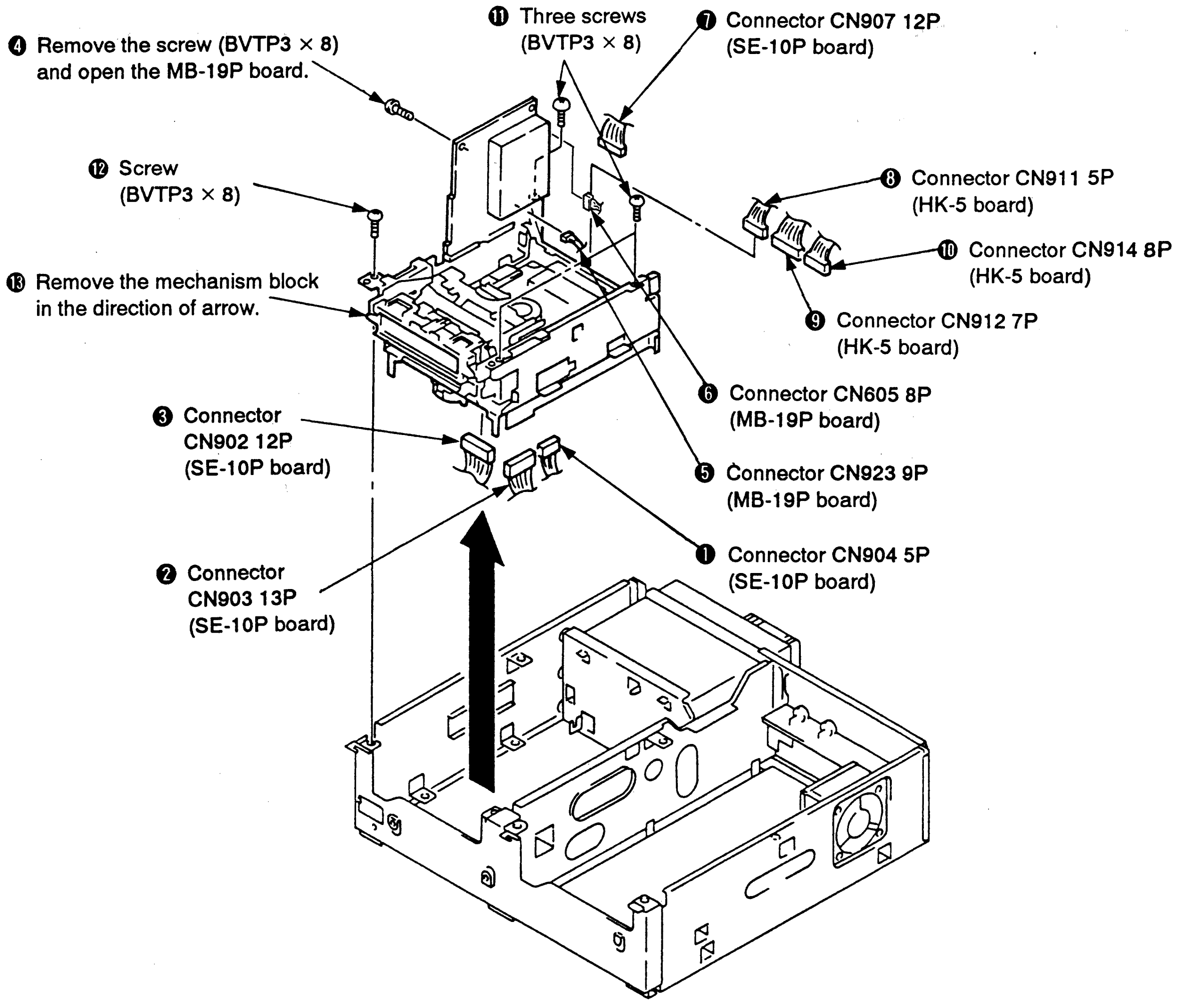
2-2. REMOVAL OF FRONT PANEL


❶ Screw (BVTP3 × 8)
❷ Claws
❷ Remove four claws.
❸ Remove the front panel in the direction of arrow.
❶ Three screws

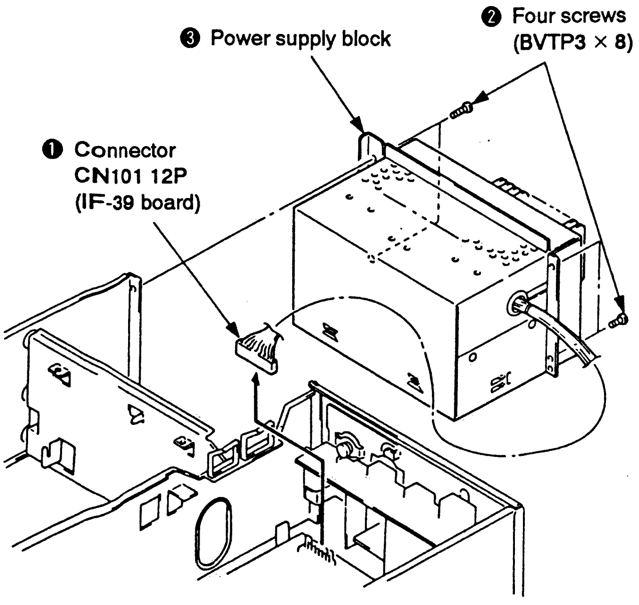
2-4. OPENING OF IF-39 BOARD


❶ Two screws (BVTT3 × 8)
❷ Open the IF-39 board in the direction of arrow.

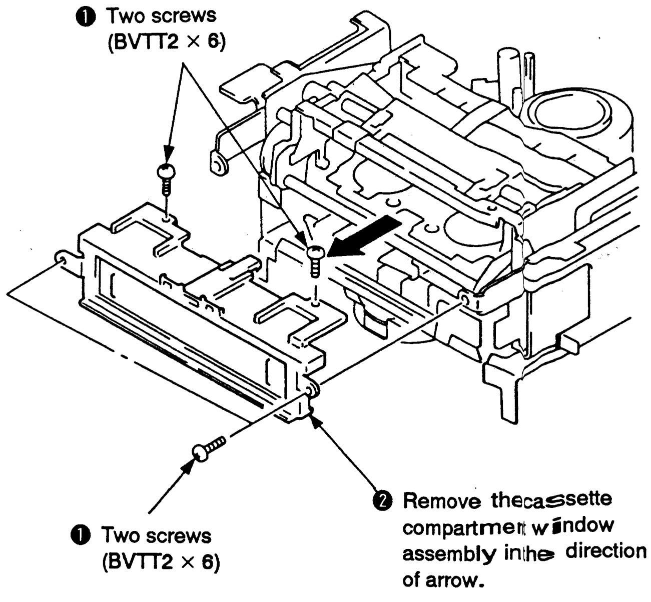
2-5. REMOVAL OF MECHANISM BLOCK


⑪ Three screws (BVTP3 × 8)
⑦ Connector CN907 12P (SE-10P board)
④ Remove the screw (BVTP3 × 8) and open the MB-19P board.
⑫ Screw (BVTP3 × 8)
⑧ Connector CN911 5P (HK-5 board)
⑩ Connector CN914 8P (HK-5 board)
⑬ Remove the mechanism block in the direction of arrow.
⑨ Connector CN912 7P (HK-5 board)
⑥ Connector CN605 8P (MB-19P board)
③ Connector CN902 12P (SE-10P board)
⑤ Connector CN923 9P (MB-19P board)
① Connector CN904 5P (SE-10P board)
② Connector CN903 13P (SE-10P board)

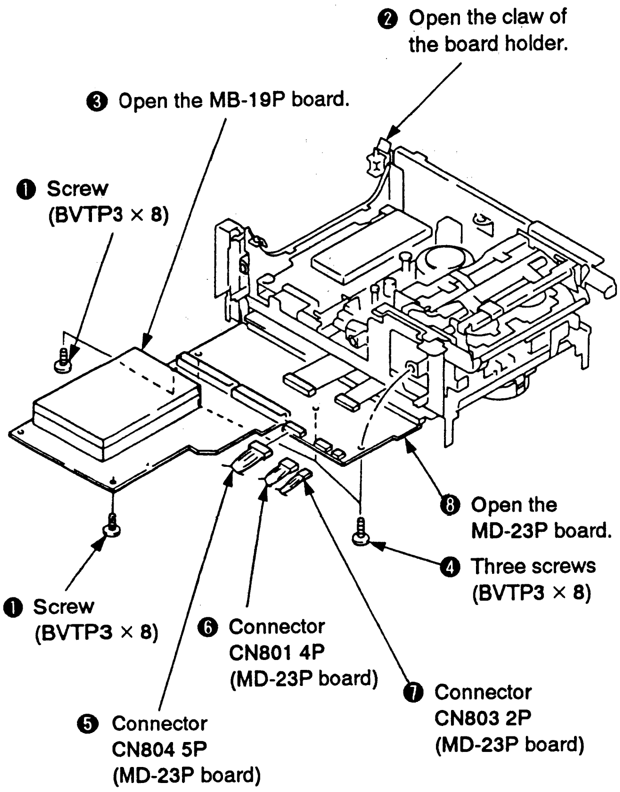
2-6. REMOVAL OF POWER SUPPLY BLOCK


② Four screws (BVTP3 × 8)
③ Power supply block
① Connector CN101 12P (IF-39 board)

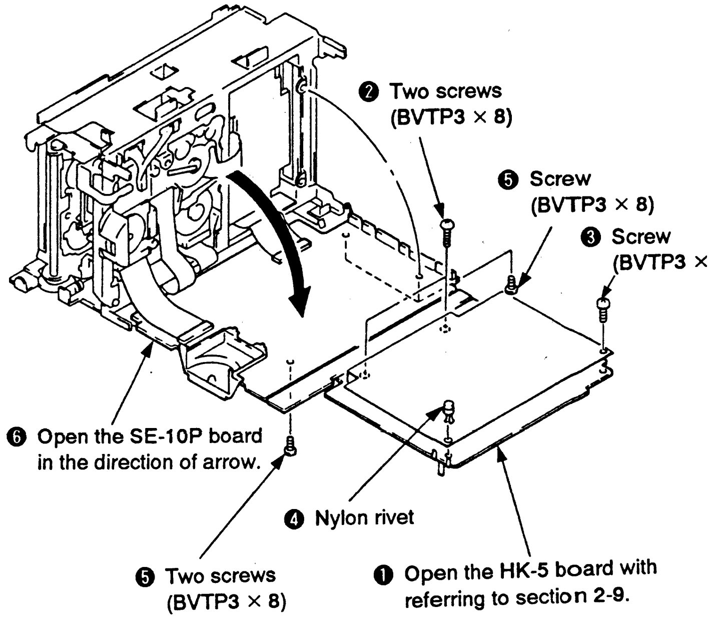
2-7. REMOVAL OF CASSETTE COMPARTMENT WINDOW ASSEMBLY


① Two screws (BVTT2 × 6)
① Two screws (BVTT2 × 6)
② Remove the cassette compartment window assembly in the direction of arrow.

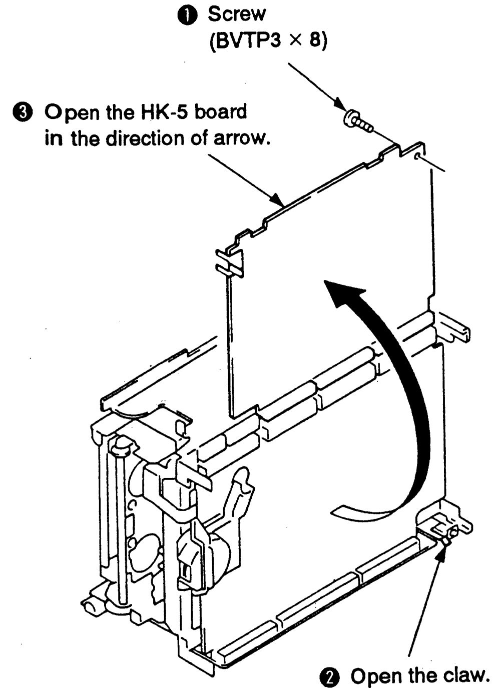
2-8. OPENING OF MB-19P, MD-23P BOARDS


② Open the claw of the board holder.
③ Open the MB-19P board.
① Screw (BVTP3 × 8)
⑧ Open the MD-23P board.
④ Three screws (BVTP3 × 8)
① Screw (BVTP3 × 8)
⑥ Connector CN801 4P (MD-23P board)
⑦ Connector CN803 2P (MD-23P board)
⑤ Connector CN804 5P (MD-23P board)

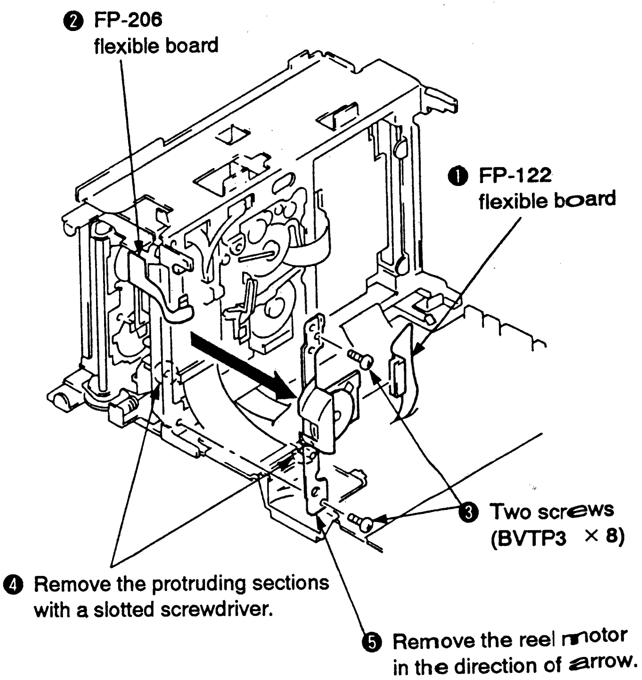
2-10. OPENING OF SE-10P BOARD


② Two screws (BVTP3 × 8)
⑤ Screw (BVTP3 × 8)
③ Screw (BVTP3 ×
⑥ Open the SE-10P board in the direction of arrow.
④ Nylon rivet
⑤ Two screws (BVTP3 × 8)
① Open the HK-5 board with referring to section 2-9.

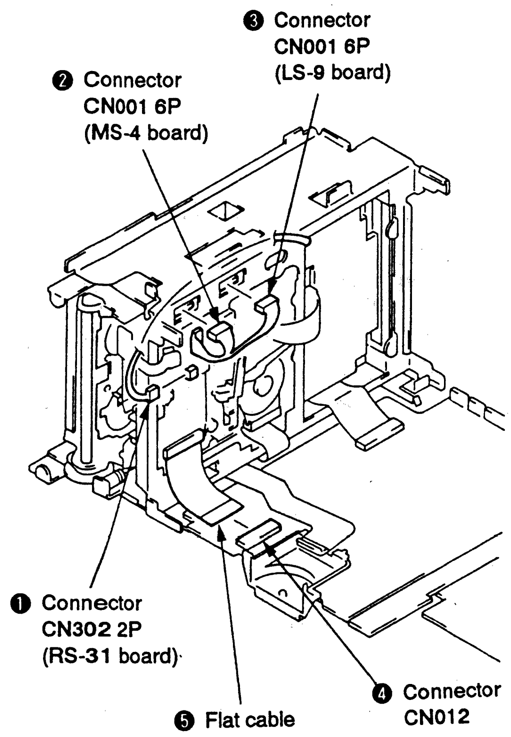
2-9. OPENING OF HK-5 BOARD

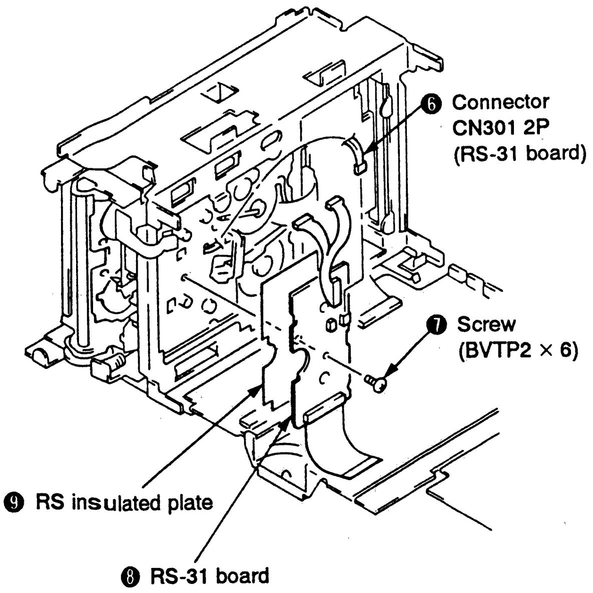

① Screw (BVTP3 × 8)
③ Open the HK-5 board in the direction of arrow.
② Open the claw.

2-11. REMOVAL OF REEL MOTOR

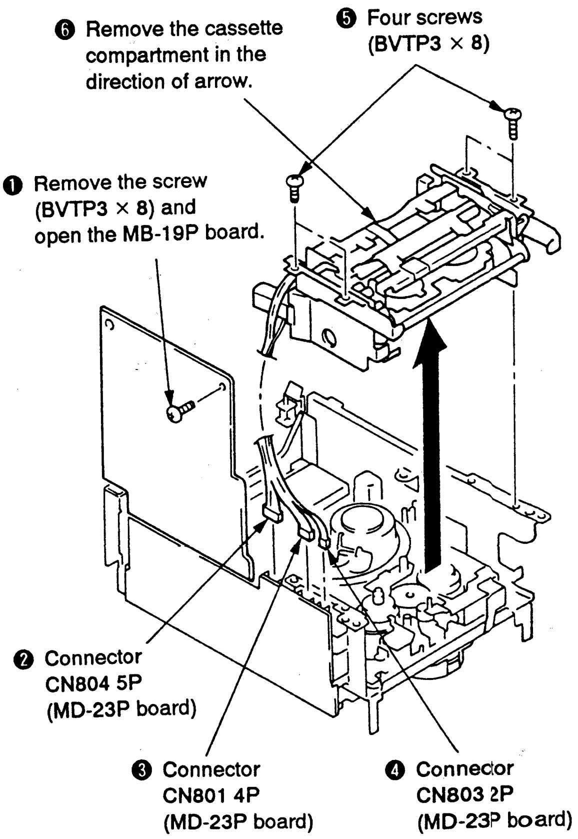

② FP-206 flexible board
① FP-122 flexible board
③ Two screws (BVTP3 × 8)
④ Remove the protruding sections with a slotted screwdriver.
⑤ Remove the reel motor in the direction of arrow.

2-12. REMOVAL OF RS-31 BOARD

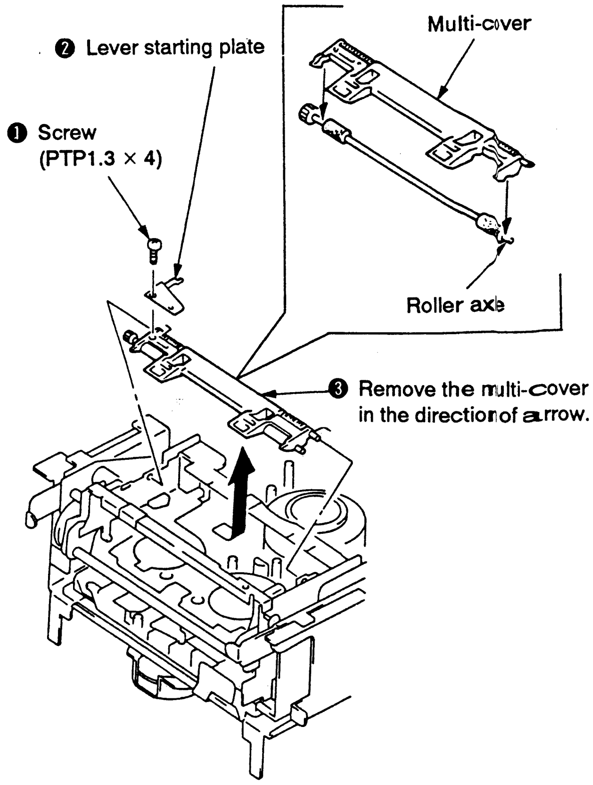

❸ Connector CN001 6P (LS-9 board)
❷ Connector CN001 6P (MS-4 board)
❶ Connector CN302 2P (RS-31 board)
❺ Flat cable
❹ Connector CN012


❻ Connector CN301 2P (RS-31 board)
❼ Screw (BVTP2 × 6)
❾ RS insulated plate
❽ RS-31 board

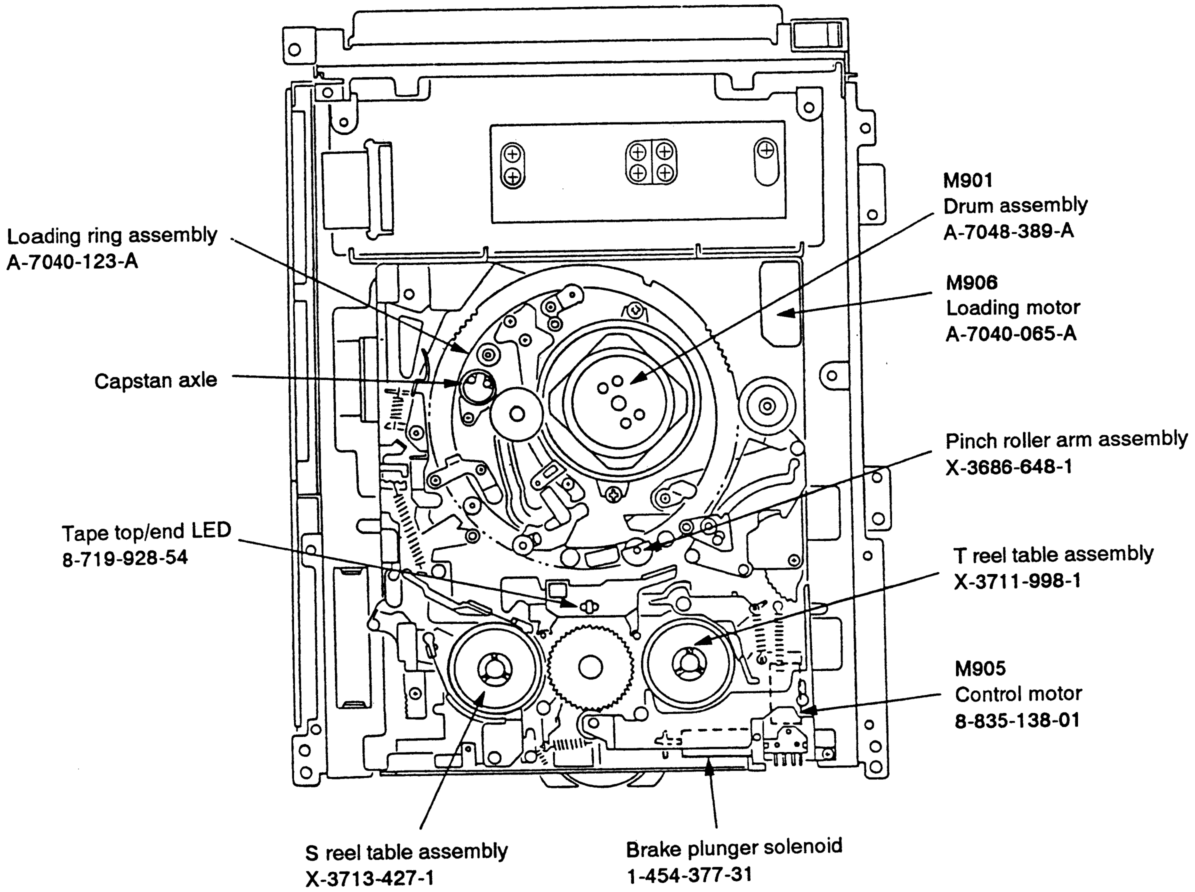
2-13. REMOVAL OF CASSETTE COMPARTMENT

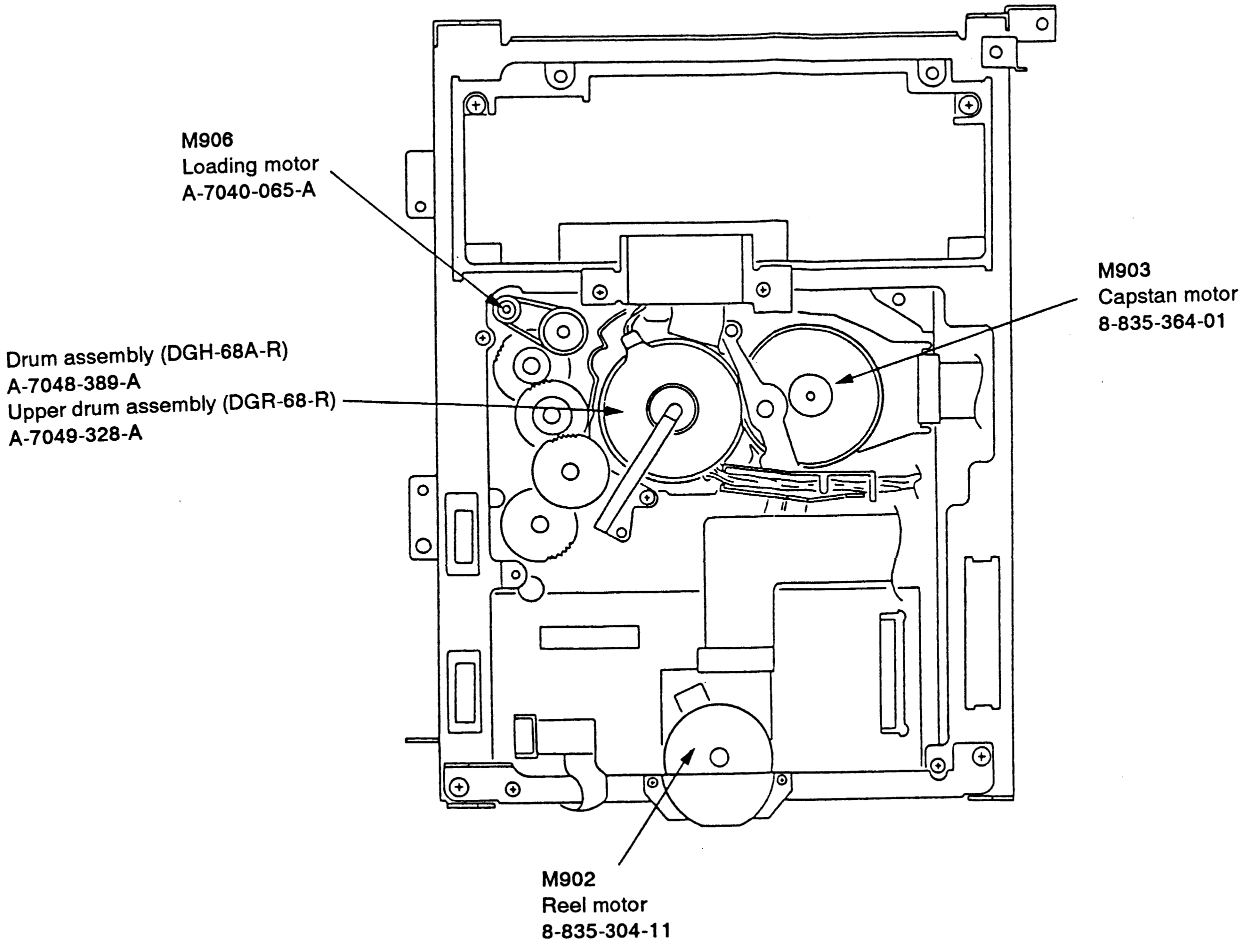

❻ Remove the cassette compartment in the direction of arrow.
❺ Four screws (BVTP3 × 8)
❶ Remove the screw (BVTP3 × 8) and open the MB-19P board.
❷ Connector CN804 5P (MD-23P board)
❸ Connector CN801 4P (MD-23P board)
❹ Connector CN803 2P (MD-23P board)

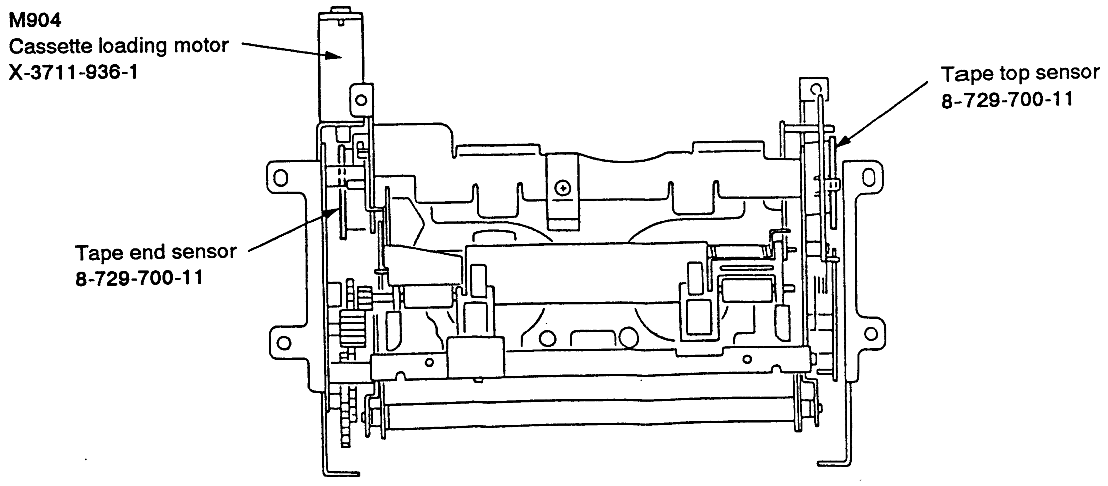
2-14. REMOVAL OF MULTI-COVER, ROLLER AXLE


❷ Lever starting plate
❶ Screw (PTP1.3 × 4)
Multi-cover
Roller axle
❸ Remove the multi-cover in the direction of arrow.

2-15. INTERNAL VIEW

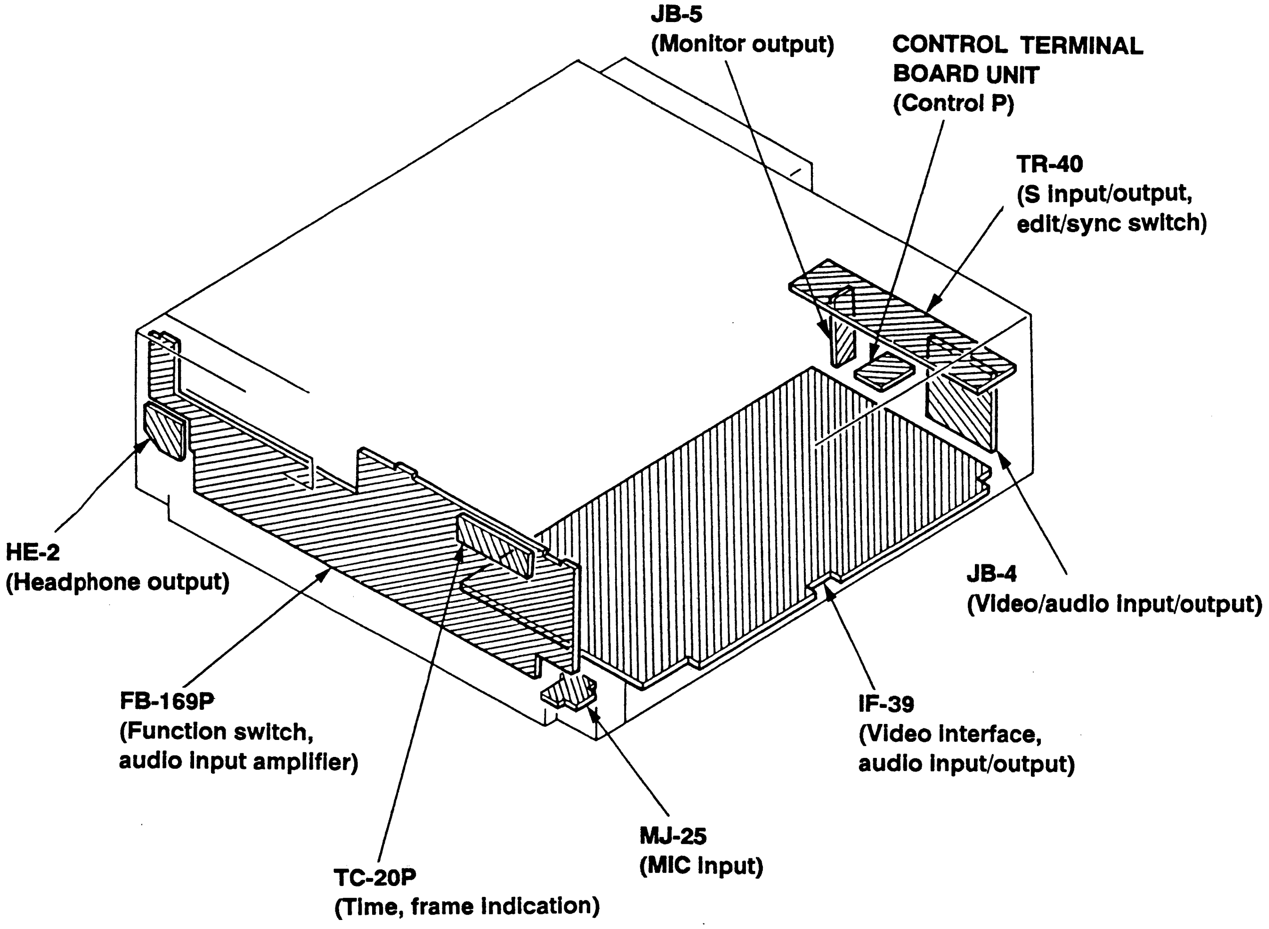

Loading ring assembly
A-7040-123-A
Capstan axle
Tape top/end LED
8-719-928-54
M901
Drum assembly
A-7048-389-A
M906
Loading motor
A-7040-065-A
Pinch roller arm assembly
X-3686-648-1
T reel table assembly
X-3711-998-1
M905
Control motor
8-835-138-01
S reel table assembly
X-3713-427-1
Brake plunger solenoid
1-454-377-31

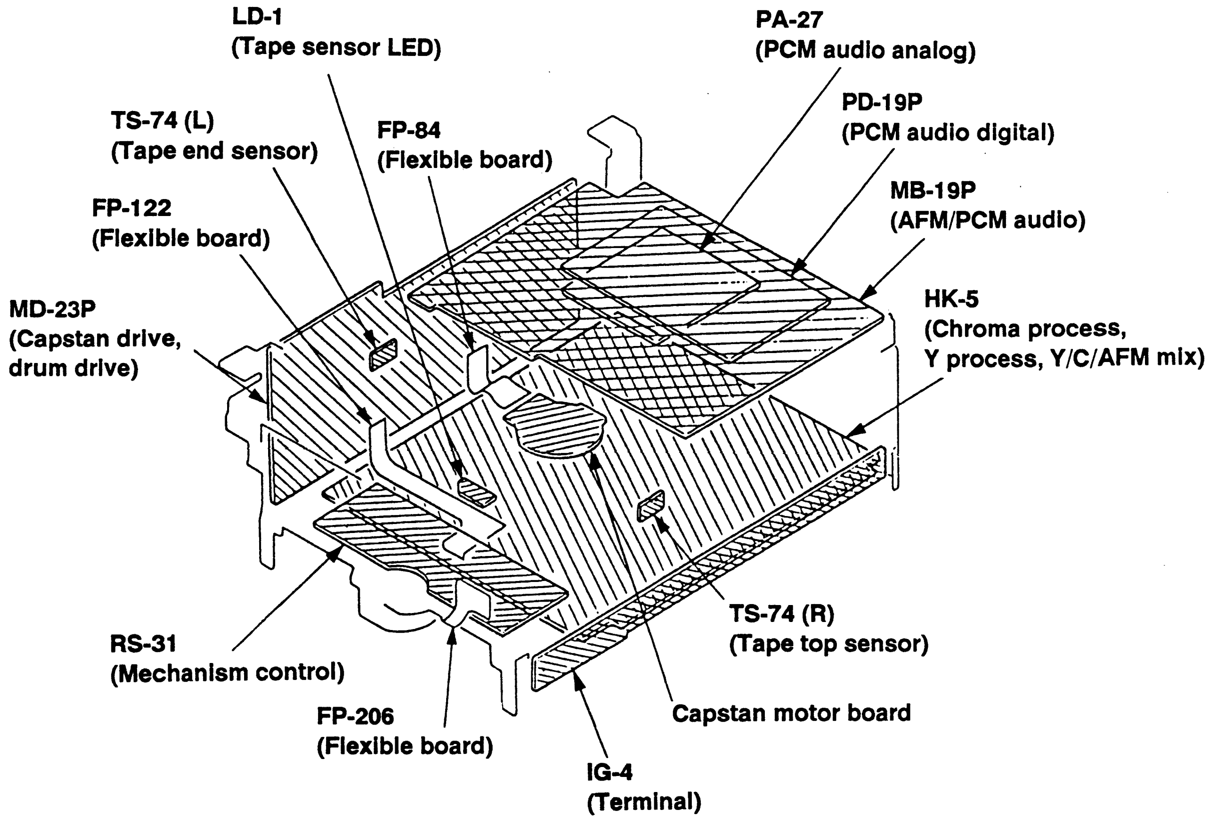

M906
Loading motor
A-7040-065-A
Drum assembly (DGH-68A-R)
A-7048-389-A
Upper drum assembly (DGR-68-R)
A-7049-328-A
M903
Capstan motor
8-835-364-01
M902
Reel motor
8-835-304-11

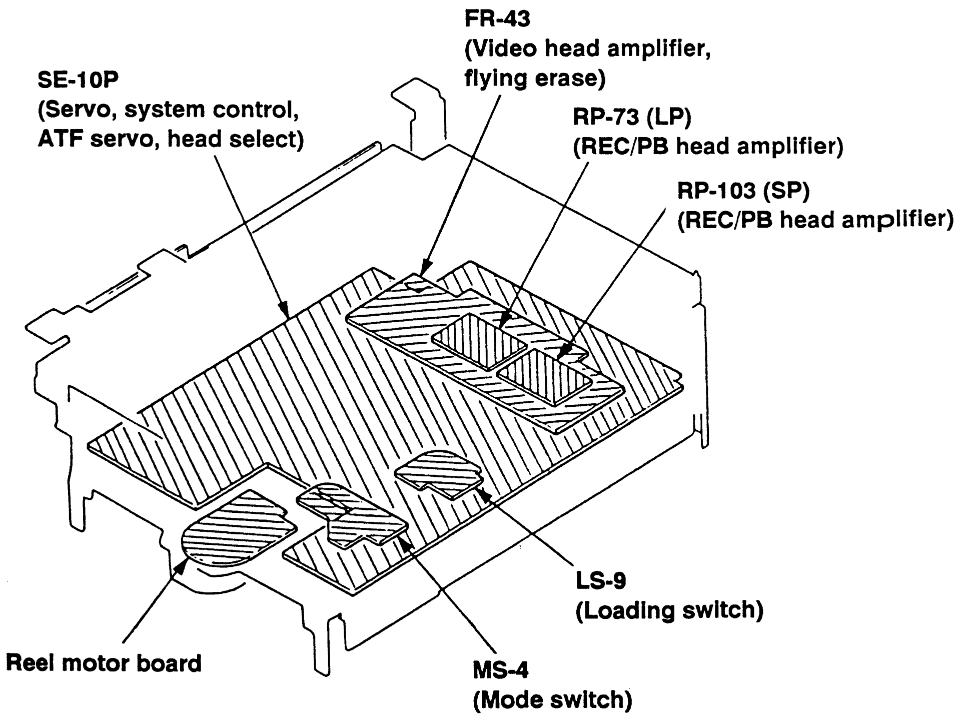

M904
Cassette loading motor
X-3711-936-1
Tape top sensor
8-729-700-11
Tape end sensor
8-729-700-11

SECTION 3
DIAGRAM

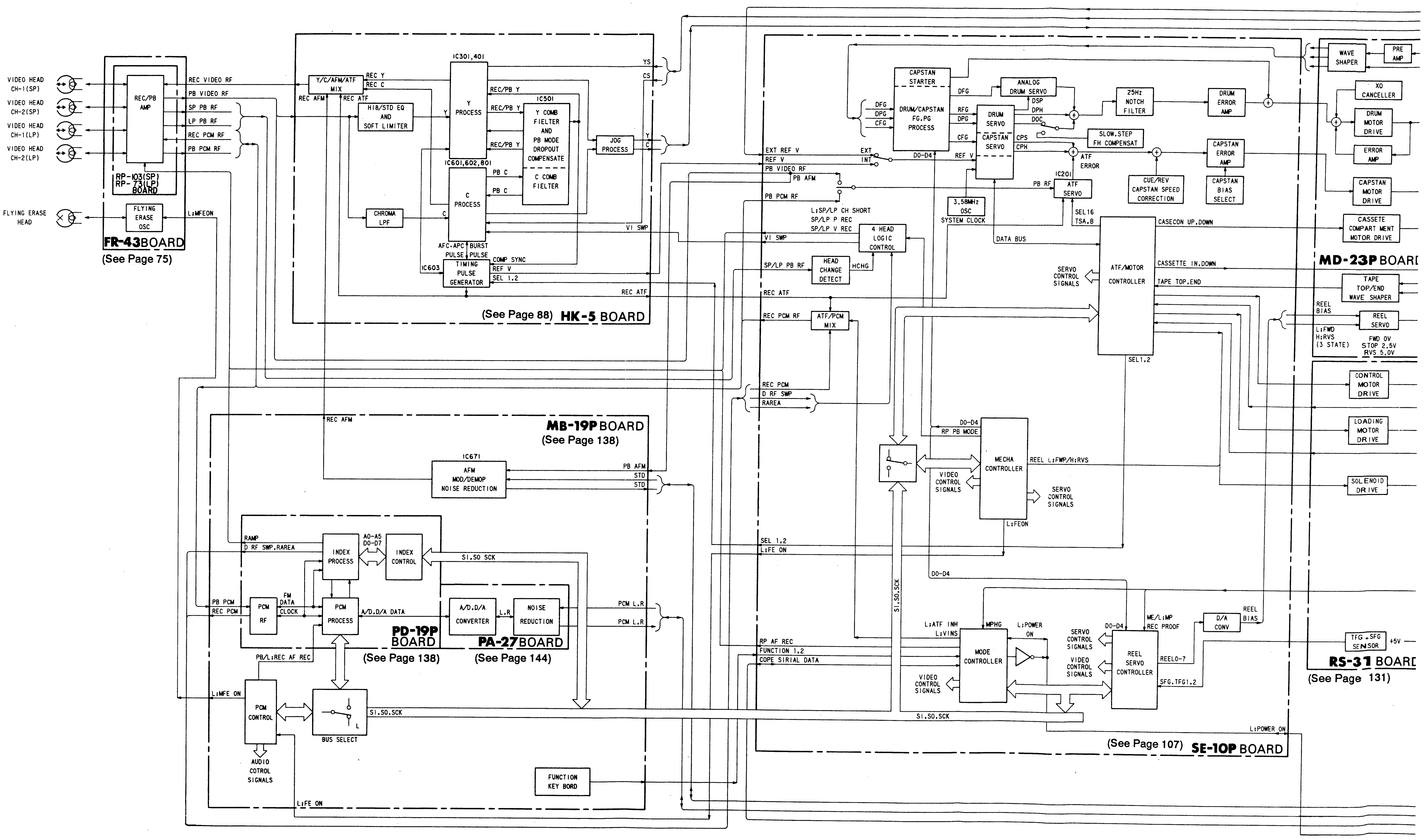
3-1. BOARD LOCATION

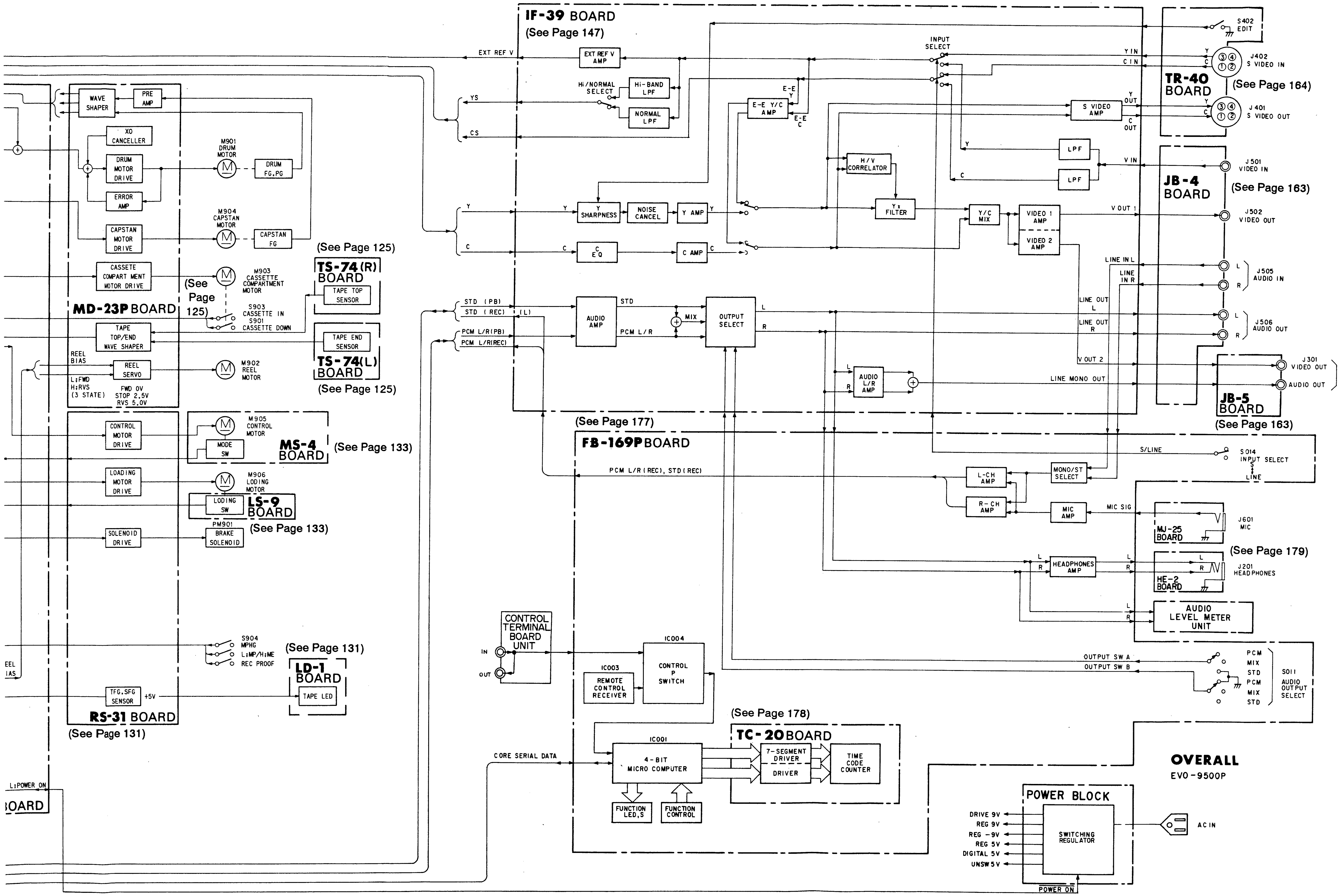

JB-5
(Monitor output)
CONTROL TERMINAL
BOARD UNIT
(Control P)
TR-40
(S input/output,
edit/sync switch)
HE-2
(Headphone output)
JB-4
(Video/audio input/output)
FB-169P
(Function switch,
audio input amplifier)
IF-39
(Video interface,
audio input/output)
MJ-25
(MIC input)
TC-20P
(Time, frame indication)


LD-1
(Tape sensor LED)
PA-27
(PCM audio analog)
TS-74 (L)
(Tape end sensor)
FP-84
(Flexible board)
PD-19P
(PCM audio digital)
FP-122
(Flexible board)
MB-19P
(AFM/PCM audio)
MD-23P
(Capstan drive,
drum drive)
HK-5
(Chroma process,
Y process, Y/C/AFM mix)
TS-74 (R)
(Tape top sensor)
RS-31
(Mechanism control)
FP-206
(Flexible board)
Capstan motor board
IG-4
(Terminal)


FR-43
(Video head amplifier,
flying erase)
SE-10P
(Servo, system control,
ATF servo, head select)
RP-73 (LP)
(REC/PB head amplifier)
RP-103 (SP)
(REC/PB head amplifier)
LS-9
(Loading switch)
Reel motor board
MS-4
(Mode switch)

3-2. OVERALL BLOCK DIAGRAM


VIDEO HEAD CH-1(SP)
VIDEO HEAD CH-2(SP)
VIDEO HEAD CH-1(LP)
VIDEO HEAD CH-2(LP)
FLYING ERASE HEAD
REC/PB AMP
RP-103(SP)
RP-73(LP)
BOARD
FLYING ERASE OSC
FR-43BOARD
(See Page 75)
REC VIDEO RF
PB VIDEO RF
SP PB RF
LP PB RF
REC PCM RF
PB PCM RF
L:MFEON
Y/C/AFM/ATF MIX
REC Y
REC C
REC AFM
REC ATF
HI8/STD EQ AND SOFT LIMITER
IC301,401
Y PROCESS
REC/PB Y
IC501
Y COMB FIELTER AND PB MODE DROPOUT COMPENSATE
C COMB FIELTER
IC601,602,801
C PROCESS
PB C
CHROMA LPF
JOG PROCESS
YS
CS
VI SWP
AFC·APC PULSE
BURST PULSE
IC603
TIMING PULSE GENERATOR
COMP SYNC
REF V
SEL 1.2
REC ATF
(See Page 88) HK-5 BOARD
REC AFM
MB-19P BOARD
(See Page 138)
IC671
AFM MOD/DEMOP NOISE REDUCTION
PB AFM
STD
RAMP
D RF SWP.RAREA
INDEX PROCESS
A0-A5 D0-D7
INDEX CONTROL
SI.SO SCK
PB PCM
REC PCM
PCM RF
FM DATA CLOCK
PCM PROCESS
A/D.D/A DATA
A/D.D/A CONVERTER
L.R
NOISE REDUCTION
PCM L.R
PD-19P BOARD
(See Page 138)
PA-27BOARD
(See Page 144)
PB/L:REC AF REC
L:MFE ON
PCM CONTROL
AUDIO COTROL SIGNALS
BUS SELECT
SI.SO.SCK
FUNCTION KEY BORD
L:FE ON
EXT REF V
REF V
PB VIDEO RF
PB AFM
PB PCM RF
EXT
INT
L:SP/LP CH SHORT
SP/LP P REC
SP/LP V REC
VI SWP
4 HEAD LOGIC CONTROL
SP/LP PB RF
HEAD CHANGE DETECT
HCHG
REC ATF
REC PCM RF
ATF/PCM MIX
REC PCM
D RF SWP
RAREA
CAPSTAN STARTER
DFG
DPG
CFG
DRUM/CAPSTAN FG.PG PROCESS
D0-D4
ANALOG DRUM SERVO
DRUM SERVO
CAPSTAN SERVO
DSP
DPH
DOC
CPS
CPH
REF V
25Hz NOTCH FILTER
SLOW.STEP FH COMPENSAT
ATF ERROR
IC201
PB RF
ATF SERVO
3.58MHz OSC
SYSTEM CLOCK
SEL16
TSA,B
DATA BUS
CUE/REV CAPSTAN SPEED CORRECTION
DRUM ERROR AMP
CAPSTAN ERROR AMP
CAPSTAN BIAS SELECT
SERVO CONTROL SIGNALS
ATF/MOTOR CONTROLLER
CASECON UP,DOWN
CASSETTE IN,DOWN
TAPE TOP,END
SEL1.2
D0-D4
RP PB MODE
MECHA CONTROLLER
REEL L:FWP/H:RVS
VIDEO CONTROL SIGNALS
SERVO CONTROL SIGNALS
L:FEON
SEL 1.2
L:FE ON
SI.SO.SCK
D0-D4
L:ATF INH
L:VINS
MPHG
L:POWER ON
RP AF REC
FUNCTION 1.2
COPE SIRIAL DATA
MODE CONTROLLER
VIDEO CONTROL SIGNALS
SERVO CONTROL SIGNALS
VIDEO CONTROL SIGNALS
ME/L:MP
REC PROOF
REEL SERVO CONTROLLER
REELO-7
SFG.TFG1.2
D/A CONV
REEL BIAS
L:POWER ON
(See Page 107) SE-10P BOARD
WAVE SHAPER
PRE AMP
XO CANCELLER
DRUM MOTOR DRIVE
ERROR AMP
CAPSTAN MOTOR DRIVE
CASSETE COMPART MENT MOTOR DRIVE
MD-23P BOARD
TAPE TOP/END WAVE SHAPER
REEL BIAS
REEL SERVO
L:FWD
H:RVS
(3 STATE)
FWD 0V
STOP 2.5V
RVS 5.0V
CONTROL MOTOR DRIVE
LOADING MOTOR DRIVE
SOLENOID DRIVE
TFG.SFG SENSOR
+5V
RS-31 BOARD
(See Page 131)

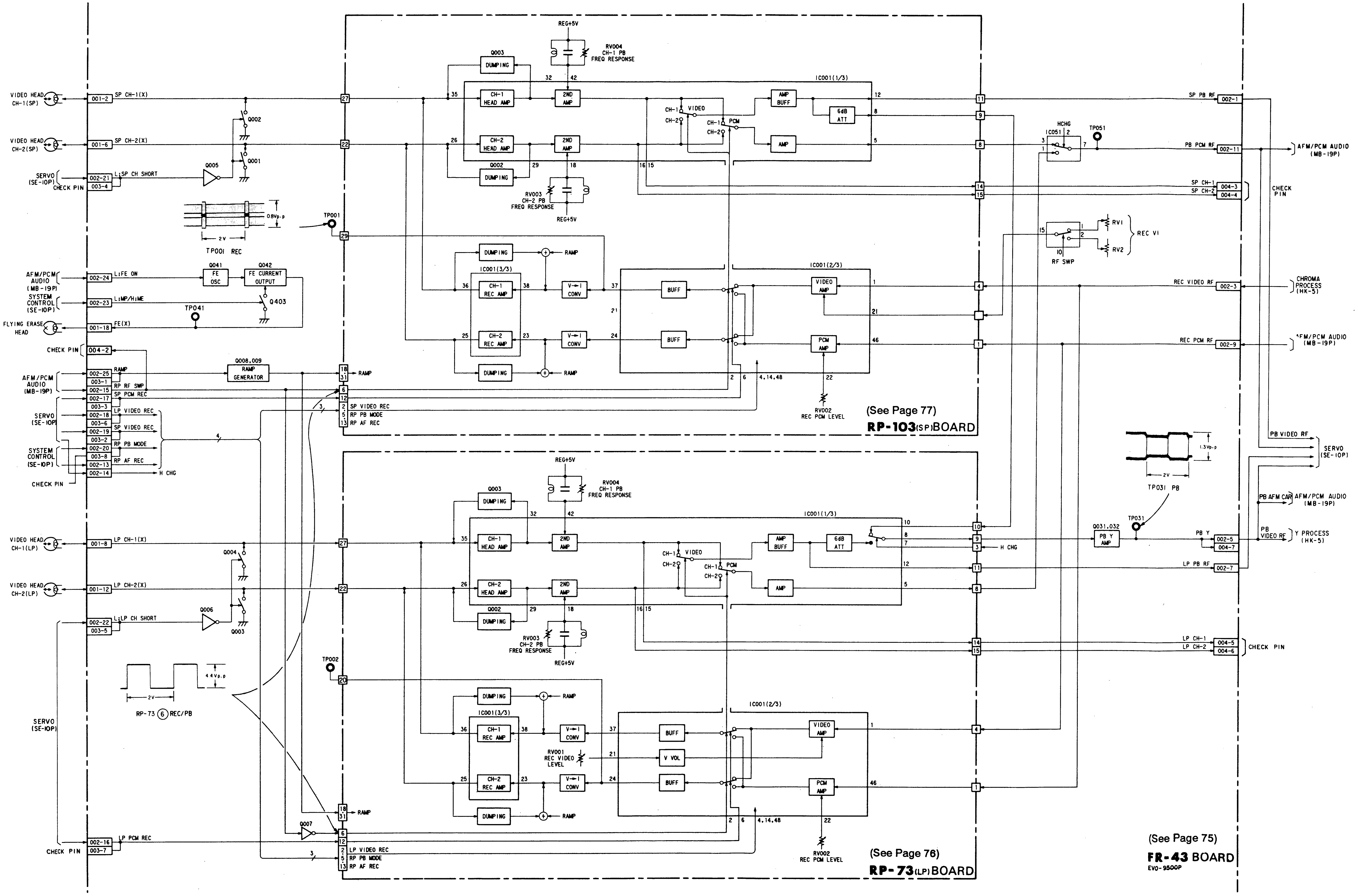

IF-39 BOARD
(See Page 147)
EXT REF V
EXT REF V AMP
Hi/NORMAL SELECT
Hi-BAND LPF
NORMAL LPF
YS
CS
INPUT SELECT
E-E Y
E-E C
E-E Y/C AMP
S VIDEO AMP
Y IN
C IN
Y OUT
C OUT
LPF
V IN
Y
C
H/V CORRELATOR
Y SHARPNESS
NOISE CANCEL
Y AMP
Y: FILTER
Y/C MIX
VIDEO 1 AMP
VIDEO 2 AMP
V OUT 1
C EQ
C AMP
LINE IN L
LINE IN R
STD (PB)
STD (REC)
(L)
PCM L/R(PB)
PCM L/R(REC)
AUDIO AMP
STD
PCM L/R
MIX
OUTPUT SELECT
L
R
LINE OUT L
LINE OUT R
V OUT 2
AUDIO L/R AMP
LINE MONO OUT
S402 EDIT
J402 S VIDEO IN
TR-40 BOARD
(See Page 164)
J401 S VIDEO OUT
J501 VIDEO IN
JB-4 BOARD
(See Page 163)
J502 VIDEO OUT
J505 AUDIO IN
J506 AUDIO OUT
J301 VIDEO OUT
AUDIO OUT
JB-5 BOARD
(See Page 163)
WAVE SHAPER
PRE AMP
XO CANCELLER
DRUM MOTOR DRIVE
M901 DRUM MOTOR
DRUM FG,PG
ERROR AMP
M904 CAPSTAN MOTOR
CAPSTAN MOTOR DRIVE
CAPSTAN FG
CASSETE COMPART MENT MOTOR DRIVE
M903 CASSETTE COMPARTMENT MOTOR
(See Page 125)
TS-74(R) BOARD
TAPE TOP SENSOR
S903 CASSETTE IN
S901 CASSETTE DOWN
MD-23P BOARD
TAPE TOP/END WAVE SHAPER
TAPE END SENSOR
TS-74(L) BOARD
(See Page 125)
REEL BIAS
REEL SERVO
M902 REEL MOTOR
L:FWD
H:RVS
(3 STATE)
FWD 0V
STOP 2.5V
RVS 5.0V
CONTROL MOTOR DRIVE
M905 CONTROL MOTOR
MODE SW
MS-4 BOARD
(See Page 133)
LOADING MOTOR DRIVE
M906 LODING MOTOR
LODING SW
LS-9 BOARD
(See Page 133)
SOLENOID DRIVE
PM901 BRAKE SOLENOID
S904 MPHG
L:MP/H:ME
REC PROOF
(See Page 131)
LD-1 BOARD
TAPE LED
TFG,SFG SENSOR
+5V
RS-31 BOARD
(See Page 131)
EEL
IAS
L:POWER ON
OARD
(See Page 177)
FB-169P BOARD
S/LINE
S014 INPUT SELECT
LINE
PCM L/R (REC), STD (REC)
L-CH AMP
R-CH AMP
MONO/ST SELECT
MIC AMP
MIC SIG
J601 MIC
MJ-25 BOARD
(See Page 179)
HEADPHONES AMP
J201 HEADPHONES
HE-2 BOARD
AUDIO LEVEL METER UNIT
CONTROL TERMINAL BOARD UNIT
IN
OUT
IC004
CONTROL P SWITCH
IC003
REMOTE CONTROL RECEIVER
OUTPUT SW A
OUTPUT SW B
PCM
MIX
STD
S011 AUDIO OUTPUT SELECT
(See Page 178)
TC-20 BOARD
IC001
4-BIT MICRO COMPUTER
7-SEGMENT DRIVER
DRIVER
TIME CODE COUNTER
CORE SERIAL DATA
FUNCTION LED,S
FUNCTION CONTROL
POWER BLOCK
SWITCHING REGULATOR
DRIVE 9V
REG 9V
REG -9V
REG 5V
DIGITAL 5V
UNSW 5V
AC IN
POWER ON

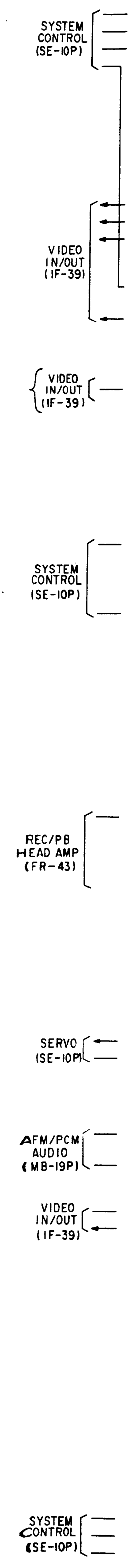
OVERALL

EVO-9500P

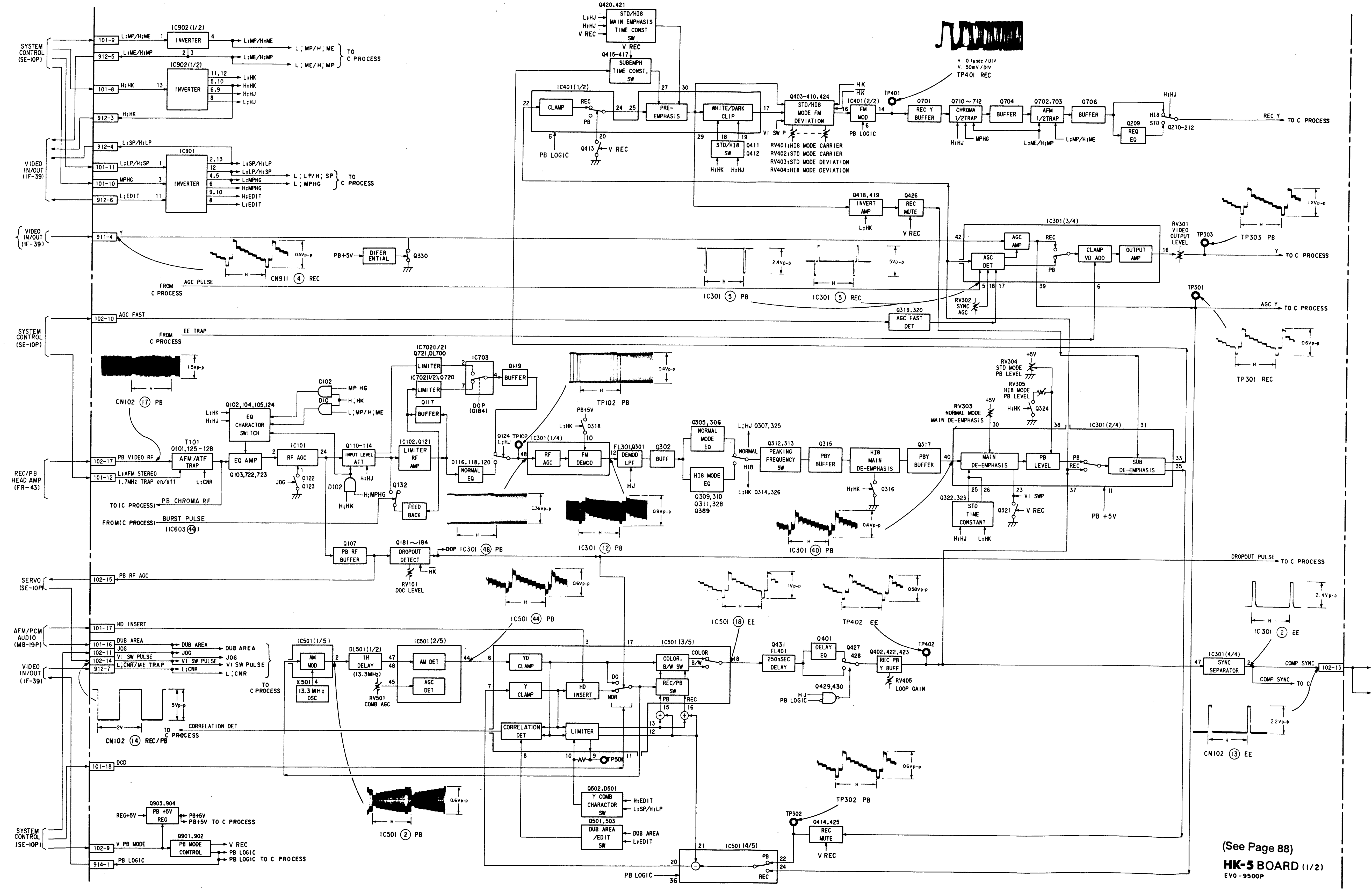
3-3. REC/PB HEAD AMP BLOCK DIAGRAM

3-4. Y PF


VIDEO HEAD CH-1(SP)
VIDEO HEAD CH-2(SP)
SERVO (SE-10P)
CHECK PIN
SP CH-1(X)
SP CH-2(X)
L:SP CH SHORT
Q005
Q002
Q001
0.8Vp-p
2V
TP001 REC
TP001
AFM/PCM AUDIO (MB-19P)
SYSTEM CONTROL (SE-10P)
FLYING ERASE HEAD
L:FE ON
L:MP/H:ME
FE(X)
Q041 FE OSC
Q042 FE CURRENT OUTPUT
Q403
TP041
RAMP
RP RF SWP
SP PCM REC
LP VIDEO REC
SP VIDEO REC
RP PB MODE
RP AF REC
H CHG
Q008,009 RAMP GENERATOR
REG+5V
RV004 CH-1 PB FREQ RESPONSE
RV003 CH-2 PB FREQ RESPONSE
Q003 DUMPING
Q002 DUMPING
IC001(1/3)
CH-1 HEAD AMP
CH-2 HEAD AMP
2ND AMP
AMP BUFF
6dB ATT
AMP
VIDEO
PCM
IC001(3/3)
CH-1 REC AMP
CH-2 REC AMP
V→I CONV
BUFF
IC001(2/3)
VIDEO AMP
PCM AMP
RV002 REC PCM LEVEL
(See Page 77)
RP-103(SP)BOARD
SP PB RF
PB PCM RF
SP CH-1
SP CH-2
REC VIDEO RF
REC PCM RF
HCHG IC051
TP051
RF SWP
RV1
RV2
REC V1
AFM/PCM AUDIO (MB-19P)
CHECK PIN
CHROMA PROCESS (HK-5)
PB VIDEO RF
SERVO (SE-10P)
1.3Vp-p
TP031 PB
PB AFM CAR
Q031,032 PB Y AMP
PB Y
PB VIDEO RF
Y PROCESS (HK-5)
LP PB RF
LP CH-1
LP CH-2
VIDEO HEAD CH-1(LP)
VIDEO HEAD CH-2(LP)
LP CH-1(X)
LP CH-2(X)
Q004
Q006
Q003
L:LP CH SHORT
4.4Vp-p
RP-73 ⑥ REC/PB
TP002
Q007
LP PCM REC
RV001 REC VIDEO LEVEL
V VOL
(See Page 76)
RP-73(LP)BOARD
(See Page 75)
FR-43 BOARD
EVO-9500P


SYSTEM CONTROL (SE-10P)
VIDEO IN/OUT (IF-39)
VIDEO IN/OUT (IF-39)
SYSTEM CONTROL (SE-10P)
REC/PB HEAD AMP (FR-43)
SERVO (SE-10P)
AFM/PCM AUDIO (MB-19P)
VIDEO IN/OUT (IF-39)
SYSTEM CONTROL (SE-10P)

3-4. Y PROCESS BLOCK DIAGRAM

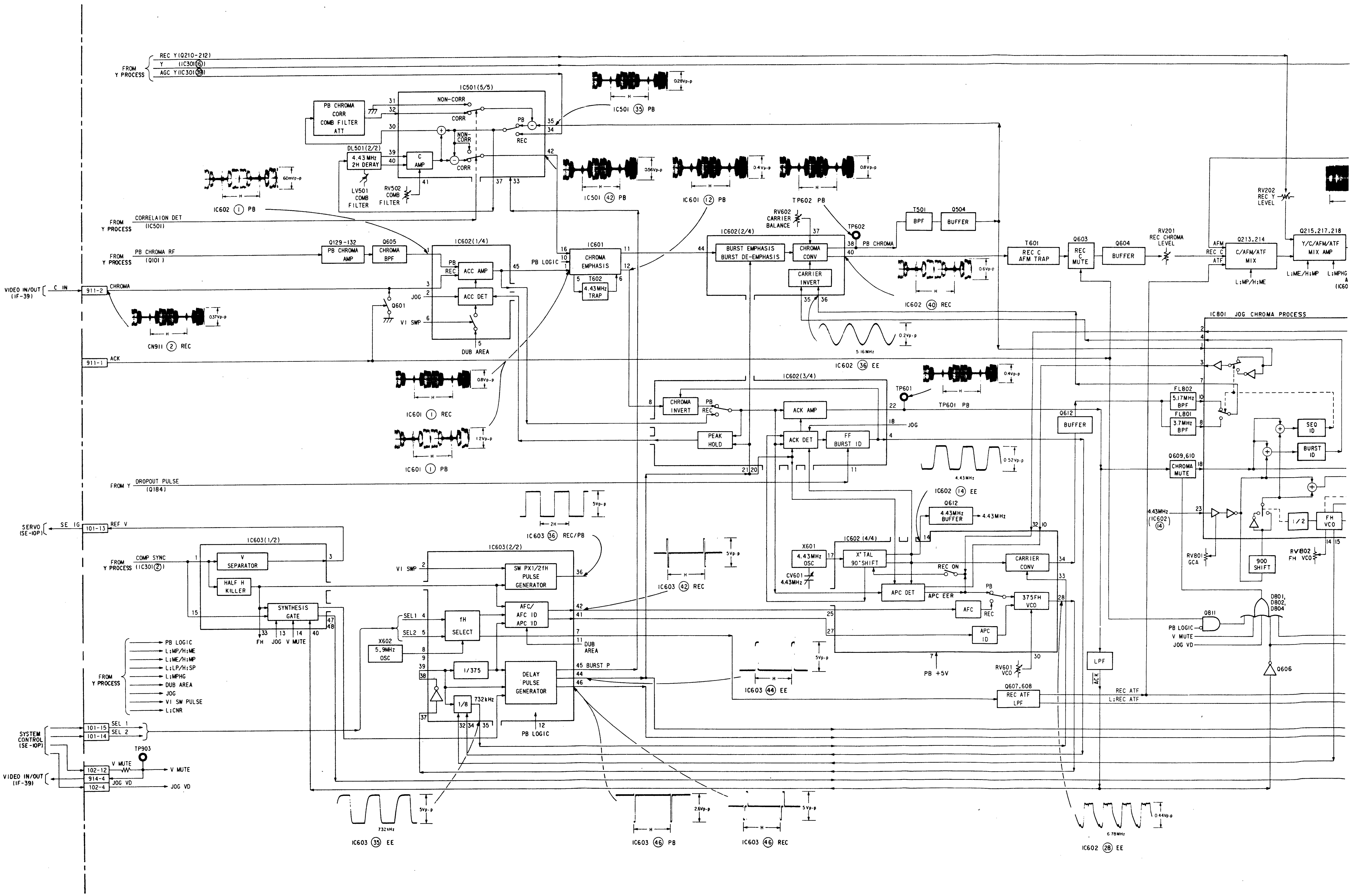

SYSTEM CONTROL (SE-10P)
101-9
912-5
101-8
912-3
IC902(1/2)
INVERTER
L:MP/H:ME
L:ME/H:MP
L ; MP/H ; ME
L ; ME/H ; MP
TO C PROCESS
H:HK
L:HK
H:HK
H:HJ
L:HJ
912-4
101-11
101-10
912-6
IC901
L:SP/H:LP
L:LP/H:SP
MPHG
L:EDIT
H:EDIT
H:MPHG
L:MPHG
L ; LP/H ; SP
L ; MPHG
VIDEO IN/OUT (IF-39)
911-4
Y
0.5Vp-p
CN911 ④ REC
FROM C PROCESS
AGC PULSE
PB+5V
DIFER ENTIAL
Q330
102-10
AGC FAST
EE TRAP
1.5Vp-p
CN102 ⑰ PB
REC/PB HEAD AMP (FR-43)
102-17
101-12
PB VIDEO RF
L:AFM STEREO
1.7MHz TRAP on/off
T101
Q101,125-128
AFM/ATF TRAP
L:CNR
Q102,104,105,124
EQ CHARACTOR SWITCH
EQ AMP
Q103,722,723
IC101
RF AGC
JOG
Q122
Q123
D102
D101
MP HG
H ; HK
L ; MP/H ; ME
Q110-114
INPUT LEVEL ATT
H:HJ
H:HK
Q132
H:MPHG
IC702(1/2) Q721,DL700
LIMITER
IC702(1/2),Q720
Q117
BUFFER
IC703
Q119
DOP (Q184)
IC102,Q121
LIMITER RF AMP
FEED BACK
Q116,118,120
NORMAL EQ
PB CHROMA RF
TO(C PROCESS)
BURST PULSE
FROM(C PROCESS)
(IC603 ㊹)
Q107
PB RF BUFFER
Q181~184
DROPOUT DETECT
RV101 DOC LEVEL
DOP IC301 ㊽ PB
SERVO (SE-10P)
102-15
PB RF AGC
0.36Vp-p
0.4Vp-p
TP102 PB
PB+5V
Q318
Q124 TP102
IC301(1/4)
RF AGC
FM DEMOD
FL301,Q301
DEMOD LPF
Q302
BUFF
HJ
0.9Vp-p
IC301 ⑫ PB
Q305,306
NORMAL MODE EQ
H18 MODE EQ
Q309,310 Q311,328 Q389
L;HJ Q307,325
NORMAL
HI8
L;HK Q314,326
Q312,313
PEAKING FREQUENCY SW
Q315
PBY BUFFER
HI8 MAIN DE-EMPHASIS
Q316
Q317
PBY BUFFER
0.4Vp-p
IC301 ㊵ PB
RV304 STD MODE PB LEVEL
RV305 HI8 MODE PB LEVEL
RV303 NORMAL MODE MAIN DE-EMPHASIS
Q324
IC301(2/4)
MAIN DE-EMPHASIS
PB LEVEL
SUB DE-EMPHASIS
Q322,323
STD TIME CONSTANT
Q321
VI SWP
V REC
PB +5V
TP301 REC
0.6Vp-p
TP301
AGC Y
TO C PROCESS
Q420,421
STD/HI8 MAIN EMPHASIS TIME CONST SW
V REC
Q415-417
SUBEMPH TIME CONST. SW
IC401(1/2)
CLAMP
PB
PRE-EMPHASIS
WHITE/DARK CLIP
STD/HI8 SW
Q411
Q412
Q413
PB LOGIC
Q403-410,424
STD/HI8 MODE FM DEVIATION
IC401(2/2)
FM MOD
PB LOGIC
VI SW P
RV401:HI8 MODE CARRIER
RV402:STD MODE CARRIER
RV403:STD MODE DEVIATION
RV404:HI8 MODE DEVIATION
H 0.1μsec/DIV
V 50mV/DIV
TP401 REC
TP401
Q701
REC Y BUFFER
Q710~712
CHROMA 1/2TRAP
Q704
BUFFER
Q702,703
AFM 1/2TRAP
Q706
BUFFER
Q209
REQ EQ
Q210-212
L:ME/H:MP
L:MP/H:ME
REC Y
TO C PROCESS
Q418,419
INVERT AMP
Q426
REC MUTE
IC301(3/4)
AGC AMP
AGC DET
CLAMP VD ADD
OUTPUT AMP
RV301 VIDEO OUTPUT LEVEL
TP303
TP303 PB
1.2Vp-p
2.4Vp-p
5Vp-p
IC301 ⑤ PB
IC301 ⑤ REC
RV302 SYNC AGC
Q319,320
AGC FAST DET
AFM/PCM AUDIO (MB-19P)
101-17
101-16
102-11
102-14
912-7
HD INSERT
DUB AREA
JOG
VI SW PULSE
L:CNR/ME TRAP
L:CNR
TO C PROCESS
IC501(1/5)
AM MOD
X501
13.3MHz OSC
DL501(1/2)
1H DELAY (13.3MHz)
RV501 COMB AGC
IC501(2/5)
AM DET
AGC DET
IC501 ㊹ PB
YD CLAMP
Y CLAMP
HD INSERT
IC501(3/5)
COLOR, B/W SW
REC/PB SW
CORRELATION DET
LIMITER
TP501
5Vp-p
2V
CN102 ⑭ REC/PB
CORRELATION DET
TO C PROCESS
101-18
DCD
IC501 ⑱ EE
1Vp-p
0.58Vp-p
TP402 EE
Q431 FL401
250nSEC DELAY
Q401
DELAY EQ
Q427 428
Q402,422,423
REC PB Y BUFF
RV405 LOOP GAIN
TP402
Q429,430
H-J
PB LOGIC
IC301(4/4)
SYNC SEPARATOR
COMP SYNC
102-13
SERVO (SE-10P)
AFM/PCM AUDIO (MB-19P)
2.4Vp-p
IC301 ② EE
2.2Vp-p
CN102 ⑬ EE
DROPOUT PULSE
TO C PROCESS
0.6Vp-p
TP302 PB
TP302
Q414,425
REC MUTE
IC501(4/5)
Q502,D501
Y COMB CHARACTOR SW
H:EDIT
L:SP/H:LP
Q501,503
DUB AREA /EDIT SW
L:EDIT
Q903,904
REG+5V
PB +5V REG
PB+5V
PB+5V TO C PROCESS
Q901,902
PB MODE CONTROL
102-9
914-1
V PB MODE
PB LOGIC TO C PROCESS
IC501 ② PB
0.6Vp-p

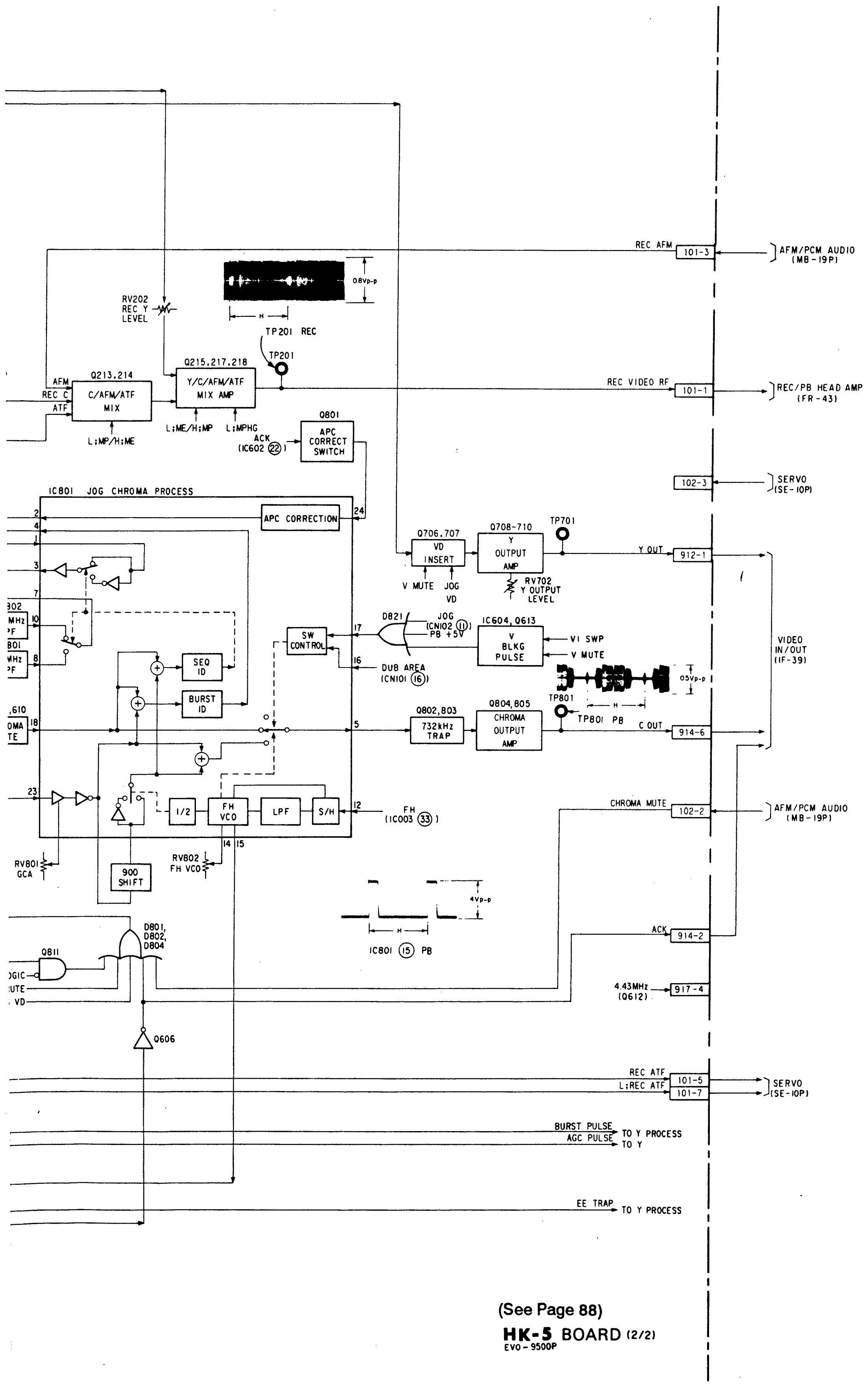
(See Page 88)

HK-5 BOARD (1/2)

EVO-9500P

3-5. CHROMA PROCESS BLOCK DIAGRAM

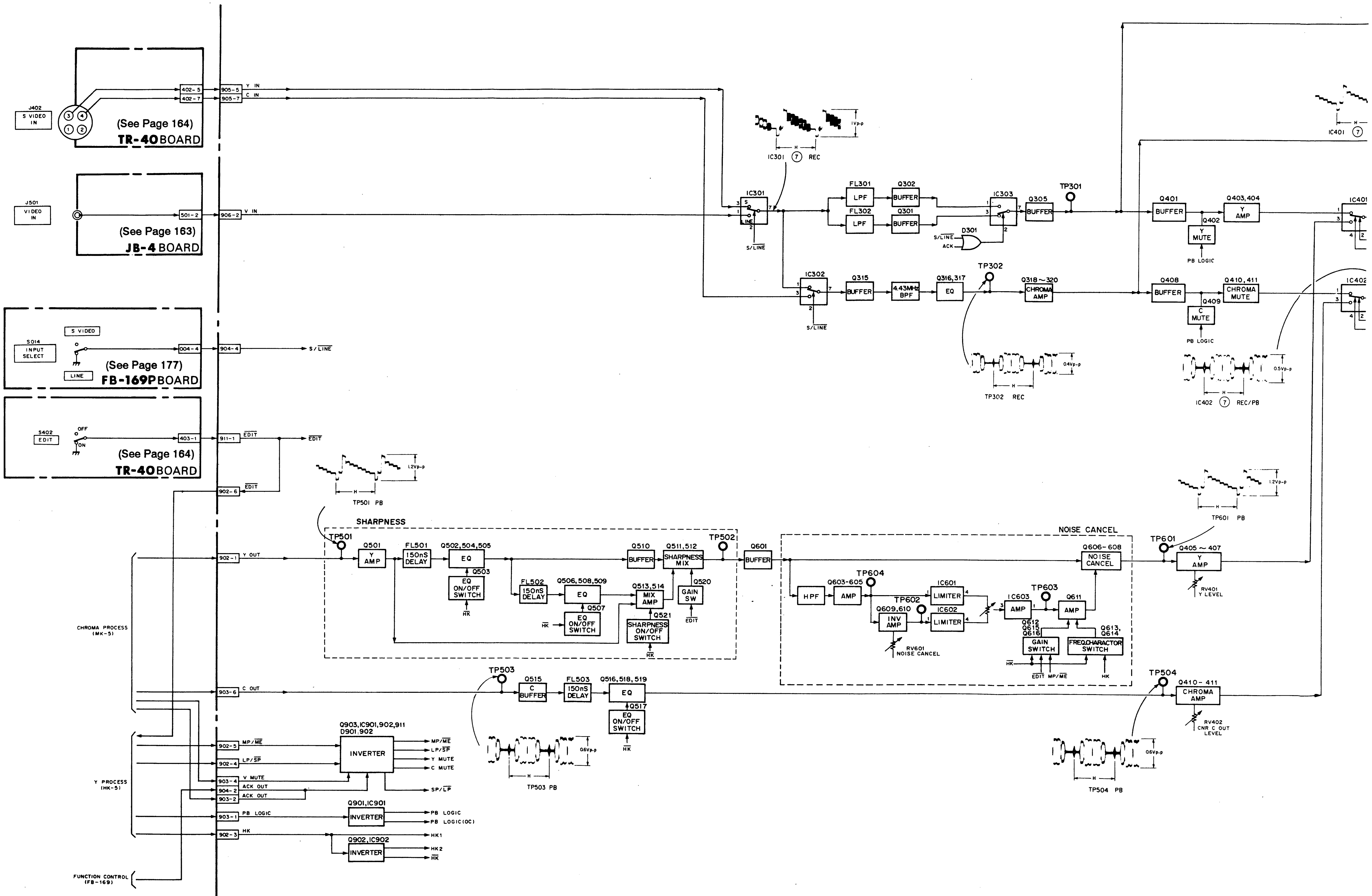

FROM Y PROCESS
REC Y (Q210-212)
Y (IC301⑯)
AGC Y (IC301㊴)
IC501(5/5)
PB CHROMA CORR COMB FILTER ATT
NON-CORR
CORR
PB
REC
DL501(2/2) 4.43MHz 2H DERAY
C AMP
LV501 COMB FILTER
RV502 COMB FILTER
IC501 ㉟ PB
IC501 ㊷ PB
IC601 ⑫ PB
TP602 PB
IC602 ① PB
FROM Y PROCESS CORRELAION DET (IC501)
FROM Y PROCESS PB CHROMA RF (Q101)
Q129-132 PB CHROMA AMP
Q605 CHROMA BPF
IC602(1/4)
ACC AMP
ACC DET
JOG
Q601
V1 SWP
DUB AREA
IC601 CHROMA EMPHASIS
T602 4.43MHz TRAP
PB LOGIC
IC602(2/4)
BURST EMPHASIS BURST DE-EMPHASIS
RV602 CARRIER BALANCE
CHROMA CONV
CARRIER INVERT
TP602
PB CHROMA
T501 BPF
Q504 BUFFER
T601 REC C AFM TRAP
Q603 REC C MUTE
Q604 BUFFER
RV201 REC CHROMA LEVEL
RV202 REC Y LEVEL
Q213,214 C/AFM/ATF MIX
Q215,217,218 Y/C/AFM/ATF MIX AMP
L:MP/H:ME
L:ME/H:MP
L:MPHG
IC602 ㊵ REC
IC602 ㊱ EE
5.16MHz
VIDEO IN/OUT (IF-39)
C IN
911-2
CHROMA
CN911 ② REC
911-1
ACK
IC601 ① REC
IC601 ① PB
IC602(3/4)
CHROMA INVERT
ACK AMP
TP601
TP601 PB
PEAK HOLD
ACK DET
FF BURST ID
JOG
IC602 ⑭ EE
4.43MHz
Q612 4.43MHz BUFFER
Q612 BUFFER
IC801 JOG CHROMA PROCESS
FL802 5.17MHz BPF
FL801 3.7MHz BPF
SEQ ID
BURST ID
Q609,610 CHROMA MUTE
4.43MHz (IC602 ⑭)
1/2
FH VCO
900 SHIFT
RV801 GCA
RV802 FH VCO
FROM Y DROPOUT PULSE (Q184)
SERVO (SE-10P)
SE IG
101-13
REF V
IC603(1/2)
FROM Y PROCESS COMP SYNC (IC301②)
V SEPARATOR
HALF H KILLER
SYNTHESIS GATE
FH JOG V MUTE
IC603 ㊱ REC/PB
2H
IC603(2/2)
V1 SWP
SW PX1/2 1H PULSE GENERATOR
AFC/ AFC ID APC ID
SEL1
SEL2
1H SELECT
X602 5.9MHz OSC
1/375
DELAY PULSE GENERATOR
1/8
732kHz
PB LOGIC
DUB AREA
BURST P
IC603 ㊷ REC
IC603 ㊹ EE
X601 4.43MHz OSC
CV601 4.43MHz
IC602(4/4)
X'TAL 90°SHIFT
REC ON
APC DET
APC EER
AFC
APC ID
375FH VCO
CARRIER CONV
PB +5V
RV601 VCO
Q607,608 REC ATF LPF
REC ATF
L:REC ATF
LPF
ACK
Q811
PB LOGIC
V MUTE
JOG VD
D801, D802, D804
Q606
FROM Y PROCESS
PB LOGIC
L:MP/H:ME
L:ME/H:MP
L:LP/H:SP
L:MPHG
DUB AREA
JOG
V1 SW PULSE
L:CNR
SYSTEM CONTROL (SE-10P)
101-15 SEL 1
101-14 SEL 2
TP903
102-12 V MUTE
914-4
102-4 JOG VD
IC603 ㉟ EE
IC603 ㊻ PB
IC603 ㊻ REC
IC602 ㉘ EE
6.78MHz

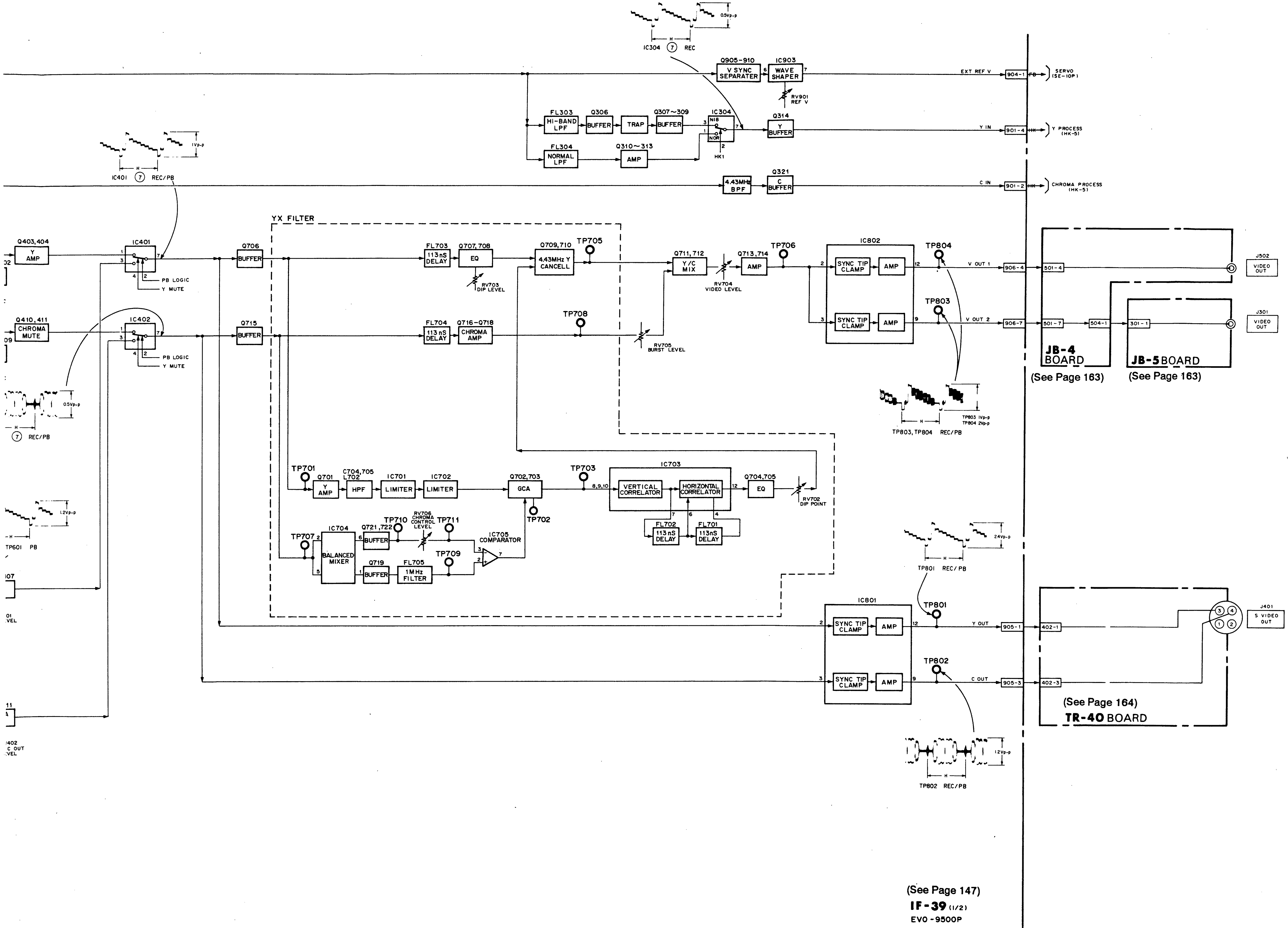

REC AFM
101-3
AFM/PCM AUDIO (MB-19P)
0.8Vp-p
H
RV202 REC Y LEVEL
TP201 REC
TP201
Q213,214
C/AFM/ATF MIX
AFM
REC C
ATF
L:MP/H:ME
Q215,217,218
Y/C/AFM/ATF MIX AMP
L:ME/H:MP
L:MPHG
REC VIDEO RF
101-1
REC/PB HEAD AMP (FR-43)
Q801
APC CORRECT SWITCH
ACK (IC602 ㉒)
102-3
SERVO (SE-10P)
IC801 JOG CHROMA PROCESS
APC CORRECTION
24
Q706,707
VD INSERT
V MUTE
JOG VD
Q708-710
Y OUTPUT AMP
RV702 Y OUTPUT LEVEL
TP701
Y OUT
912-1
D821
JOG (CN102 ⑪)
PB +5V
IC604,Q613
V BLKG PULSE
VI SWP
V MUTE
SW CONTROL
17
16
DUB AREA (CN101 ⑯)
VIDEO IN/OUT (IF-39)
0.5Vp-p
SEQ ID
BURST ID
Q802,803
732kHz TRAP
Q804,805
CHROMA OUTPUT AMP
TP801
TP801 PB
C OUT
914-6
5
18
23
1/2
FH VCO
LPF
S/H
12
FH (IC003 ㉝)
14 15
RV801 GCA
900 SHIFT
RV802 FH VCO
CHROMA MUTE
102-2
AFM/PCM AUDIO (MB-19P)
4Vp-p
IC801 ⑮ PB
ACK
914-2
D801, D802, D804
Q811
4.43MHz (Q612)
917-4
Q606
REC ATF
L:REC ATF
101-5
101-7
SERVO (SE-10P)
BURST PULSE
AGC PULSE
TO Y PROCESS
TO Y
EE TRAP
TO Y PROCESS

(See Page 88)

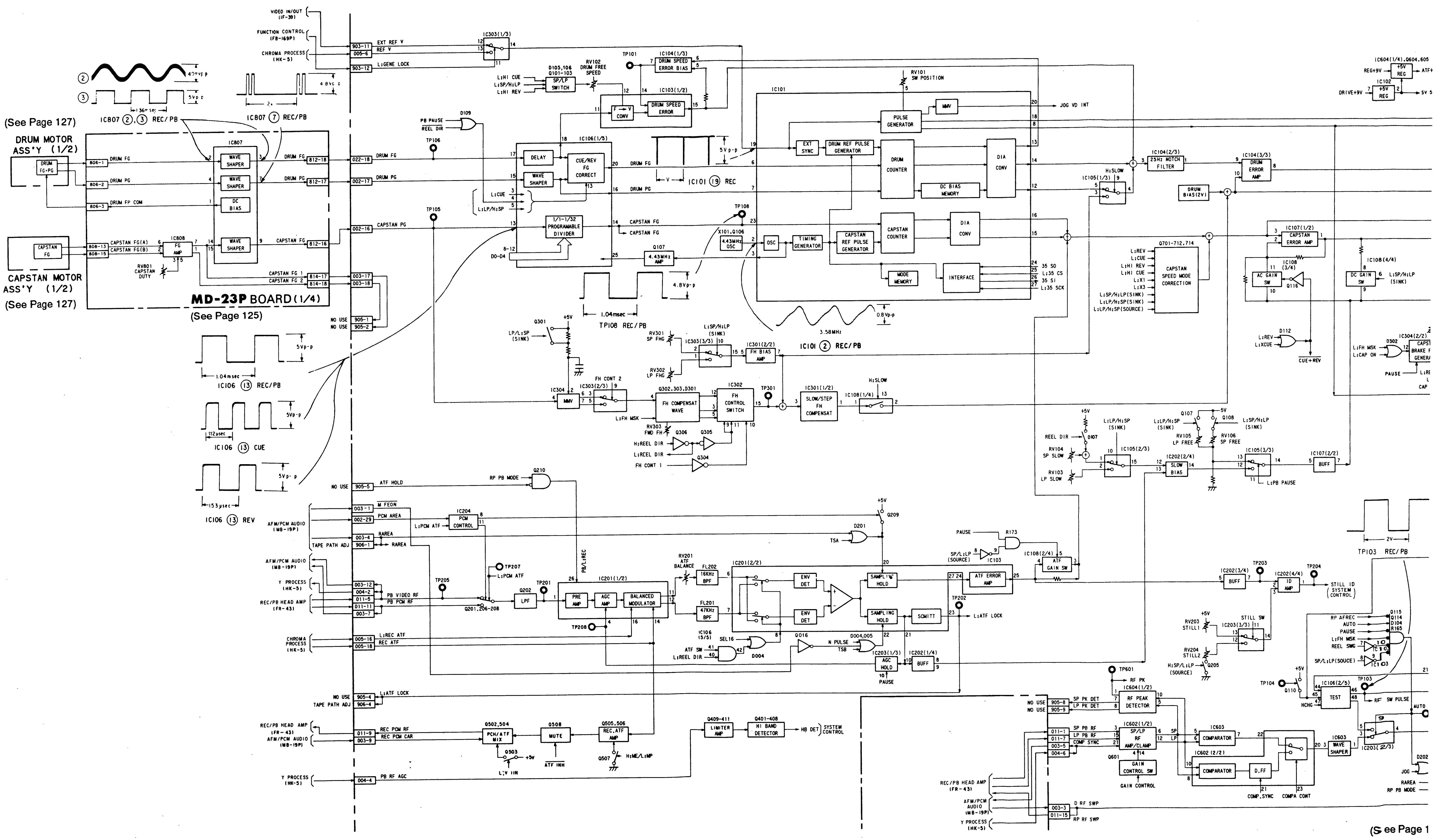
HK-5 BOARD (2/2)
EVO-9500P

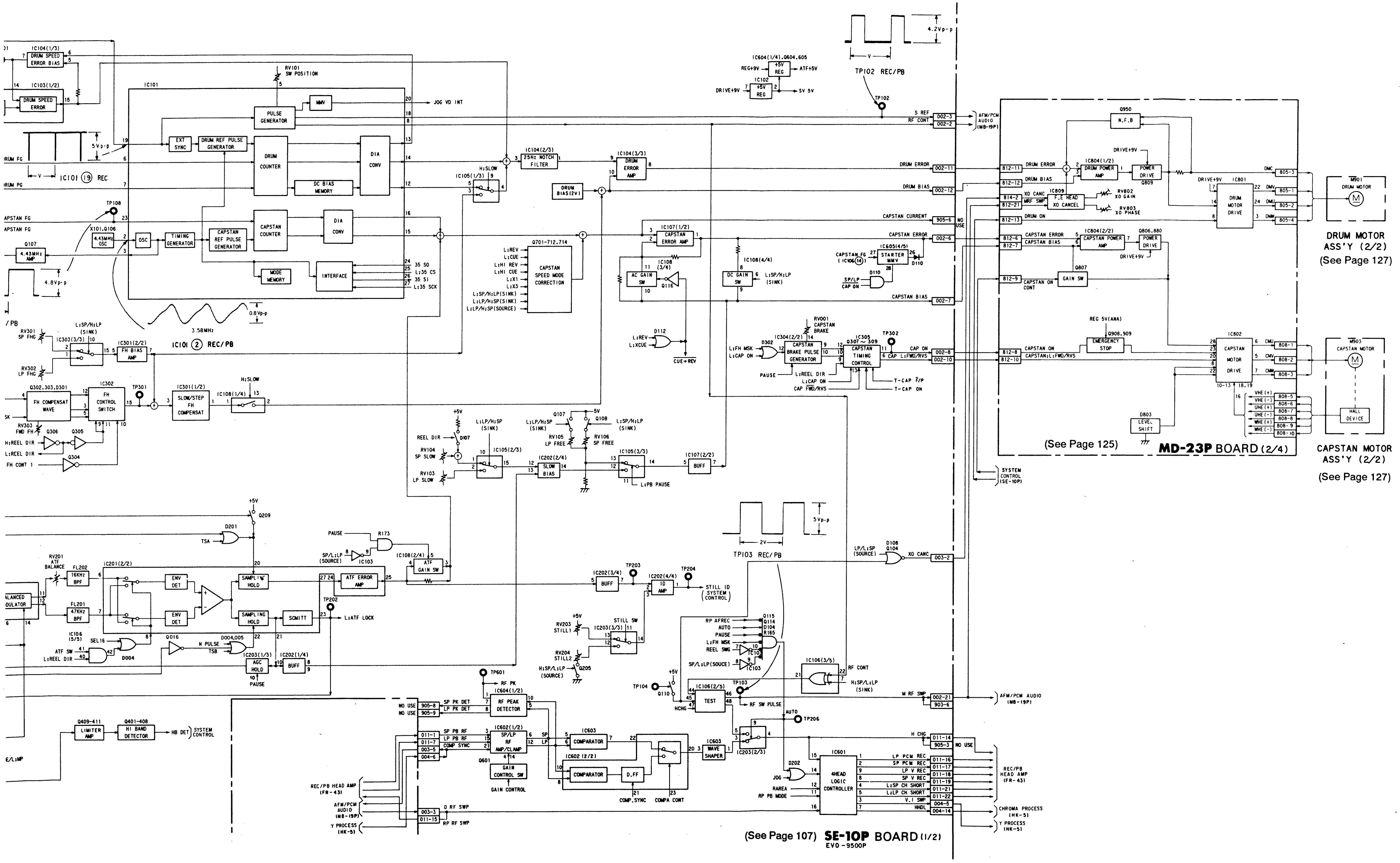
3-6. VIDEO IN/OUT BLOCK DIAGRAM


J402
S VIDEO IN
(See Page 164)
TR-40 BOARD
402-5
402-7
905-5
905-7
Y IN
C IN
J501
VIDEO IN
(See Page 163)
JB-4 BOARD
501-2
906-2
V IN
S014
INPUT SELECT
S VIDEO
LINE
(See Page 177)
FB-169P BOARD
004-4
904-4
S/LINE
S402
EDIT
OFF
ON
(See Page 164)
TR-40 BOARD
403-1
911-1
EDIT
902-6
IC301 ⑦ REC
1Vp-p
H
IC301
S/LINE
FL301
LPF
Q302
BUFFER
FL302
LPF
Q301
BUFFER
IC303
D301
S/LINE
ACK
Q305
BUFFER
TP301
IC302
Q315
BUFFER
4.43MHz BPF
Q316,317
EQ
TP302
Q318～320
CHROMA AMP
TP302 REC
0.4Vp-p
Q401
BUFFER
Q402
Y MUTE
PB LOGIC
Q403,404
Y AMP
Q408
BUFFER
Q409
C MUTE
PB LOGIC
Q410,411
CHROMA MUTE
IC401 ⑦
IC401
IC402
IC402 ⑦ REC/PB
0.5Vp-p
TP501 PB
1.2Vp-p
SHARPNESS
TP501
Q501
Y AMP
FL501
150nS DELAY
Q502,504,505
EQ
Q503
EQ ON/OFF SWITCH
HK
FL502
150nS DELAY
Q506,508,509
EQ
Q507
EQ ON/OFF SWITCH
Q513,514
MIX AMP
Q521
SHARPNESS ON/OFF SWITCH
Q510
BUFFER
Q511,512
SHARPNESS MIX
Q520
GAIN SW
EDIT
TP502
Q601
BUFFER
NOISE CANCEL
HPF
Q603-605
AMP
TP604
Q609,610
INV AMP
TP602
IC601
LIMITER
IC602
LIMITER
RV601
NOISE CANCEL
IC603
AMP
TP603
Q611
AMP
Q612
Q615
Q616
GAIN SWITCH
Q613,
Q614
FREQ.CHARACTOR SWITCH
EDIT MP/ME
HK
Q606-608
NOISE CANCEL
TP601 PB
TP601
Q405～407
Y AMP
RV401
Y LEVEL
CHROMA PROCESS (MK-5)
902-1
Y OUT
903-6
C OUT
TP503
Q515
C BUFFER
FL503
150nS DELAY
Q516,518,519
EQ
Q517
EQ ON/OFF SWITCH
TP503 PB
0.6Vp-p
TP504
Q410-411
CHROMA AMP
RV402
CNR C OUT LEVEL
TP504 PB
0.6Vp-p
Y PROCESS (HK-5)
902-5
MP/ME
902-4
LP/SP
903-4
V MUTE
904-2
ACK OUT
903-2
ACK OUT
Q903,IC901,902,911
D901,902
INVERTER
MP/ME
LP/SP
Y MUTE
C MUTE
SP/LP
903-1
PB LOGIC
Q901,IC901
INVERTER
PB LOGIC
PB LOGIC(OC)
902-3
HK
Q902,IC902
INVERTER
HK1
HK2
HK
FUNCTION CONTROL (FB-169)

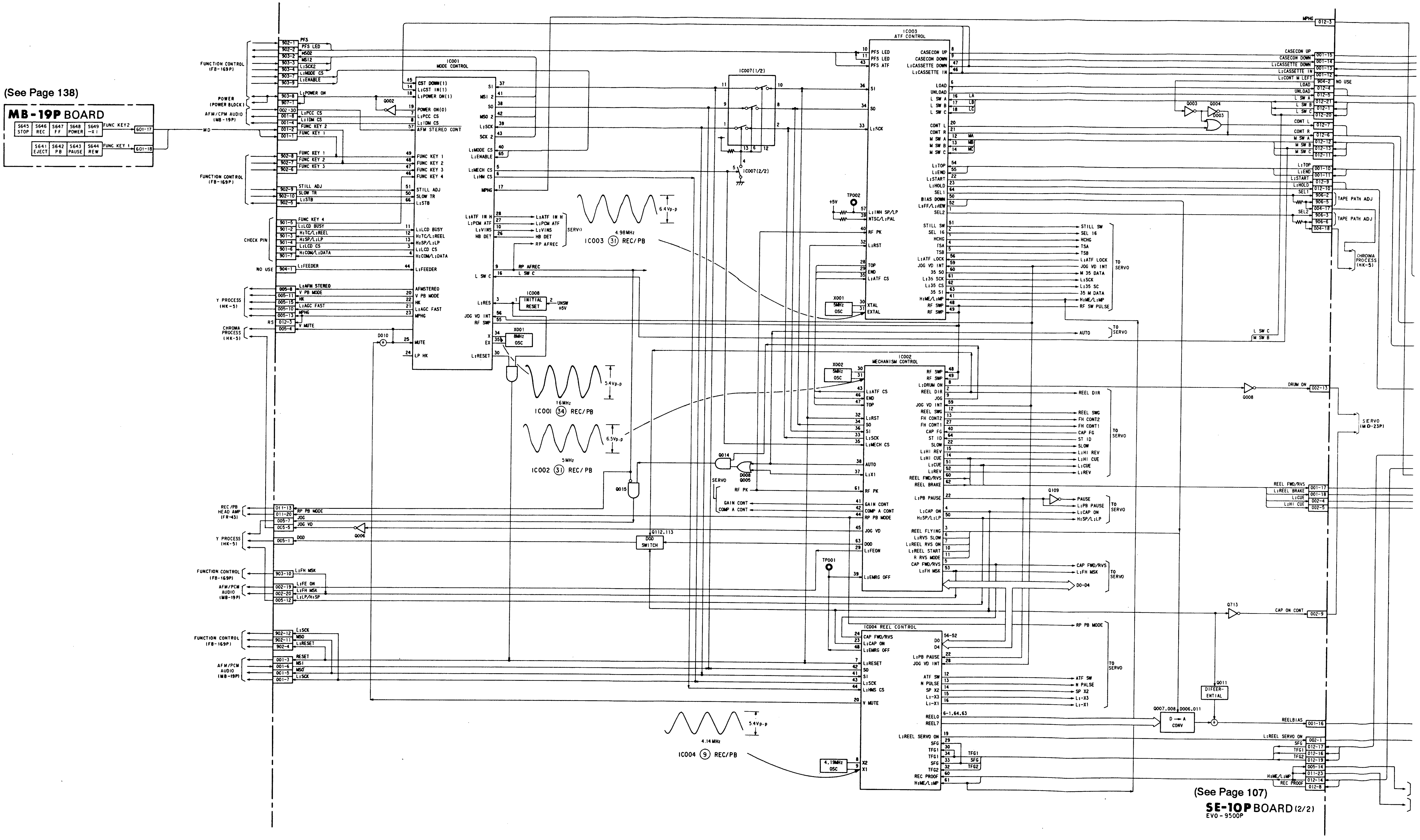

IC304 ⑦ REC
0.5Vp-p
Q905-910
V SYNC SEPARATER
IC903
WAVE SHAPER
RV901 REF V
EXT REF V
904-1
SERVO (SE-10P)
FL303
HI-BAND LPF
Q306
BUFFER
TRAP
Q307~309
BUFFER
IC304
N18
NOR
HK1
Q314
Y BUFFER
Y IN
901-4
Y PROCESS (HK-5)
FL304
NORMAL LPF
Q310~313
AMP
1Vp-p
IC401 ⑦ REC/PB
4.43MHz BPF
Q321
C BUFFER
C IN
901-2
CHROMA PROCESS (HK-5)
YX FILTER
Q403,404
Y AMP
IC401
PB LOGIC
Y MUTE
Q706
BUFFER
FL703
113nS DELAY
Q707,708
EQ
RV703 DIP LEVEL
Q709,710
4.43MHz Y CANCELL
TP705
Q711,712
Y/C MIX
RV704 VIDEO LEVEL
Q713,714
AMP
TP706
IC802
SYNC TIP CLAMP
AMP
TP804
V OUT 1
906-4
501-4
J502
VIDEO OUT
Q410,411
CHROMA MUTE
IC402
PB LOGIC
Y MUTE
Q715
BUFFER
FL704
113 nS DELAY
Q716~Q718
CHROMA AMP
TP708
RV705 BURST LEVEL
TP803
V OUT 2
906-7
501-7
504-1
301-1
J301
VIDEO OUT
JB-4 BOARD
(See Page 163)
JB-5 BOARD
(See Page 163)
0.5Vp-p
⑦ REC/PB
TP803, TP804 REC/PB
TP803 1Vp-p
TP804 2Vp-p
TP701
Q701
Y AMP
C704,705 L702
HPF
IC701
LIMITER
IC702
LIMITER
Q702,703
GCA
TP703
TP702
IC703
VERTICAL CORRELATOR
HORIZONTAL CORRELATOR
FL702
113nS DELAY
FL701
113nS DELAY
Q704,705
EQ
RV702 DIP POINT
1.2Vp-p
TP601 PB
TP707
IC704
BALANCED MIXER
Q721,722
BUFFER
TP710
RV706 CHROMA CONTROL LEVEL
TP711
IC705 COMPARATOR
TP709
Q719
BUFFER
FL705
1MHz FILTER
2.4Vp-p
TP801 REC/PB
IC801
TP801
SYNC TIP CLAMP
AMP
Y OUT
905-1
402-1
J401
S VIDEO OUT
TP802
SYNC TIP CLAMP
AMP
C OUT
905-3
402-3
(See Page 164)
TR-40 BOARD
1.2Vp-p
TP802 REC/PB
J402 C OUT
(See Page 147)
IF-39 (1/2)
EVO-9500P

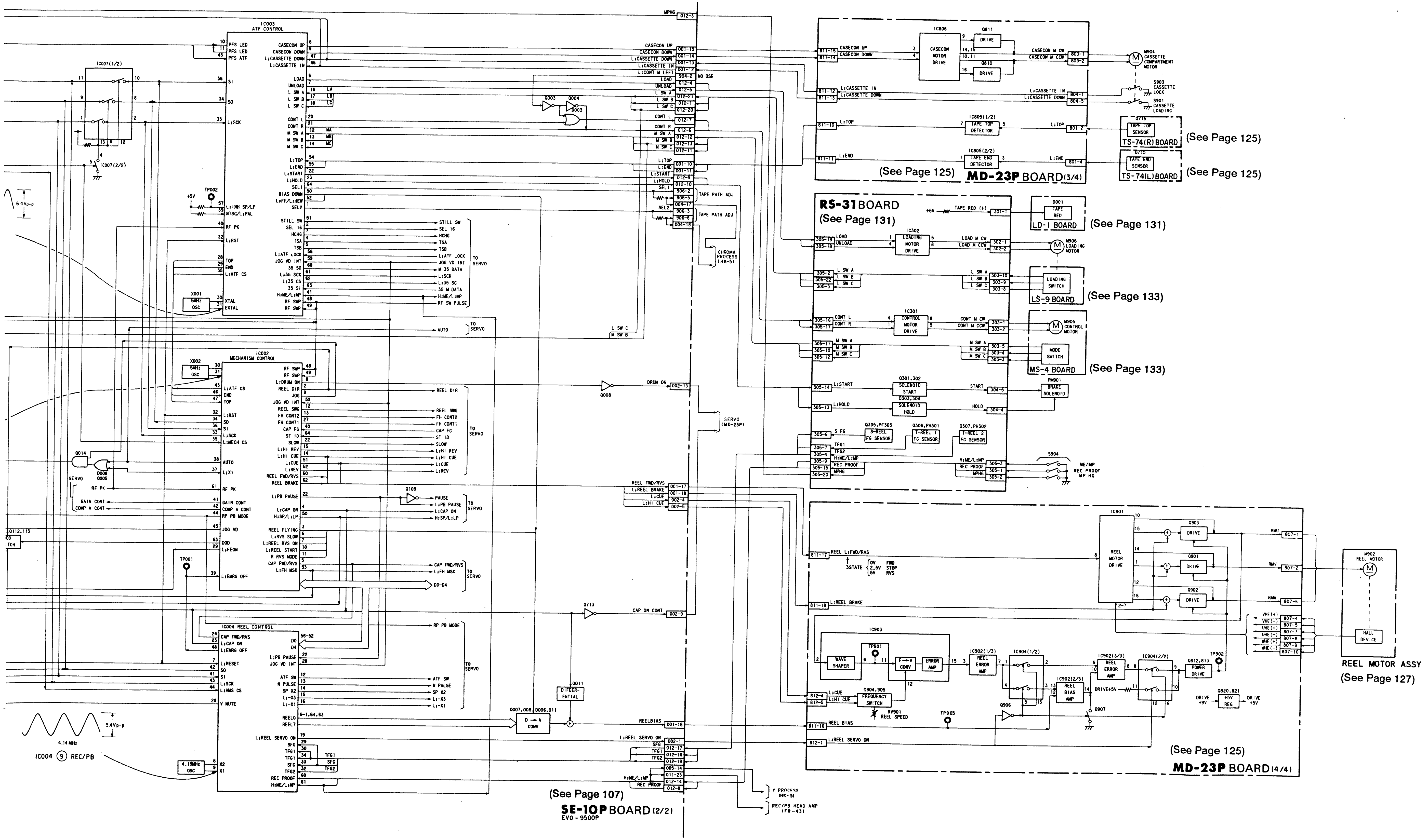
3-7. SERVO BLOCK DIAGRAM


(See Page 127)
DRUM MOTOR ASS'Y (1/2)
CAPSTAN MOTOR ASS'Y (1/2)
(See Page 127)
MD-23P BOARD (1/4)
(See Page 125)
IC807 ②,③ REC/PB
IC807 ⑦ REC/PB
IC106 ⑬ REC/PB
IC106 ⑬ CUE
IC106 ⑬ REV
IC101 ⑲ REC
IC101 ② REC/PB
TP108 REC/PB
TP103 REC/PB
IC807
WAVE SHAPER
DC BIAS
IC808
FG AMP
RV801 CAPSTAN DUTY
DRUM FG
DRUM PG
DRUM FP COM
CAPSTAN FG(A)
CAPSTAN FG(B)
CAPSTAN FG 1
CAPSTAN FG 2
CAPSTAN PG
VIDEO IN/OUT (IF-39)
FUNCTION CONTROL (FB-169P)
CHROMA PROCESS (HK-5)
EXT REF V
REF V
L:GENE LOCK
IC303(1/3)
IC104(1/3) DRUM SPEED ERROR BIAS
IC103(1/2) DRUM SPEED ERROR
F→V CONV
SP/LP SWITCH
RV102 DRUM FREE SPEED
IC106(1/5)
DELAY
CUE/REV FG CORRECT
1/1-1/32 PROGRAMABLE DIVIDER
Q107 4.43MHz AMP
X101,Q106 4.43MHz OSC
IC101
RV101 SW POSITION
PULSE GENERATOR
MMV
EXT SYNC
DRUM REF PULSE GENERATOR
DRUM COUNTER
D/A CONV
DC BIAS MEMORY
OSC
TIMING GENERATOR
CAPSTAN REF PULSE GENERATOR
CAPSTAN COUNTER
MODE MEMORY
INTERFACE
JOG VD INT
35 SO
L:35 CS
35 SI
L:35 SCK
IC104(2/3) 25Hz NOTCH FILTER
IC104(3/3) DRUM ERROR AMP
DRUM BIAS(2V)
IC105(1/3)
H:SLOW
Q701-712,714 CAPSTAN SPEED MODE CORRECTION
IC107(1/2) CAPSTAN ERROR AMP
IC108 (3/4) AC GAIN SW
IC108(4/4) DC GAIN SW
L:SP/H:LP (SINK)
IC604(1/4),Q604,605
IC102
+5V REG
REG+9V
DRIVE+9V
ATF+
SV 5
D112
CUE+REV
IC304(2/2)
CAPST BRAKE GENERA
PAUSE
Q301
LP/L:SP (SINK)
IC304
IC303(2/3)
FH CONT 2
Q302,303,D301 FH COMPENSAT WAVE
IC302 FH CONTROL SWITCH
RV301 SP FHG
RV302 LP FHG
IC301(2/2) FH BIAS AMP
IC301(1/2) SLOW/STEP FH COMPENSAT
IC108(1/4)
TP301
RV303 FWD FH
H:REEL DIR
L:REEL DIR
FH CONT 1
L:FH MSK
3.58MHz
REEL DIR
RV104 SP SLOW
RV103 LP SLOW
IC105(2/3)
IC202(2/4) SLOW BIAS
RV105 LP FREE
RV106 SP FREE
IC105(3/3)
IC107(2/2) BUFF
L:PB PAUSE
Q107
Q108
NO USE
ATF HOLD
Q210
RP PB MODE
AFM/PCM AUDIO (MB-19P)
TAPE PATH ADJ
M FEON
PCM AREA
RAREA
IC204 PCM CONTROL
L:PCM ATF
D201
TSA
Y PROCESS (HK-5)
REC/PB HEAD AMP (FR-43)
PB VIDEO RF
PB PCM RF
Q201,206-208
Q202 LPF
IC201(1/2)
PRE AMP
AGC AMP
BALANCED MODULATOR
RV201 ATF BALANCE
FL202 16KHz BPF
FL201 47KHz BPF
IC201(2/2)
ENV DET
SAMPLING HOLD
SCHMITT
IC106(5/5)
SEL16
ATF SW
L:REEL DIR
D004
Q016
N PULSE
TSB
D004,005
IC203(1/3) AGC HOLD
IC202(1/4) BUFF
L:ATF LOCK
PAUSE
R173
SP/L:LP (SOURCE)
IC103
IC108(2/4) ATF GAIN SW
ATF ERROR AMP
IC202(3/4) BUFF
IC202(4/4) ID AMP
STILL ID (SYSTEM CONTROL)
STILL SW
RV203 STILL1
RV204 STILL2
IC203(3/3)
H:SP/L:LP (SOURCE)
Q205
RP AFREC
AUTO
REEL SWG
SP/L:LP(SOUCE)
Q115 Q114 D104 R165
IC103
IC106(2/5) TEST
TP104
Q110
HCHG
RF SW PULSE
CHROMA PROCESS (HK-5)
L:REC ATF
REC ATF
REC PCM RF
REC PCM CAR
Q502,504 PCM/ATF MIX
Q503
L:V INN
Q508 MUTE
ATF INH
Q505,506 REC.ATF AMP
Q507 H:ME/L:MP
PB RF AGC
Q409-411 LIMITER AMP
Q401-408 HI BAND DETECTOR
HB DET SYSTEM CONTROL
TP601
RF PK
IC604(1/2) RF PEAK DETECTOR
SP PK DET
LP PK DET
SP PB RF
LP PB RF
COMP SYNC
IC602(1/2) SP/LP RF AMP/CLAMP
Q601 GAIN CONTROL SW
GAIN CONTROL
IC603 COMPARATOR
IC602(2/2) COMPARATOR
D.FF
COMP.SYNC
COMPA CONT
IC603 WAVE SHAPER
IC203(2/3)
D202
JOG
RAREA
RP PB MODE
D RF SWP
RP RF SWP
(See Page 1


IC104(1/3)
DRUM SPEED ERROR BIAS
IC103(1/2)
DRUM SPEED ERROR
IC101
RV101 SW POSITION
PULSE GENERATOR
MMV
JOG VD INT
EXT SYNC
DRUM REF PULSE GENERATOR
DRUM COUNTER
D/A CONV
DC BIAS MEMORY
CAPSTAN REF PULSE GENERATOR
CAPSTAN COUNTER
D/A CONV
TIMING GENERATOR
OSC
4.43MHz OSC
X101,Q106
Q107
4.43MHz AMP
MODE MEMORY
INTERFACE
35 SO
35 CS
35 SI
35 SCK
TP108
DRUM FG
DRUM PG
CAPSTAN FG
5Vp-p
4.8Vp-p
0.8Vp-p
3.58MHz
IC101 ⑲ REC
IC101 ② REC/PB
IC104(2/3)
25Hz NOTCH FILTER
H:SLOW
IC105(1/3)
IC104(3/3)
DRUM ERROR AMP
DRUM BIAS(2V)
Q701-712,714
L:REV
L:CUE
L:HI REV
L:HI CUE
L:X1
L:X3
L:SP/H:LP(SINK)
L:LP/H:SP(SINK)
L:LP/H:SP(SOURCE)
CAPSTAN SPEED MODE CORRECTION
IC107(1/2)
CAPSTAN ERROR AMP
IC108(3/4)
AC GAIN SW
Q116
IC108(4/4)
DC GAIN SW
L:SP/H:LP (SINK)
D112
L:REV
L:XCUE
CUE+REV
IC604(1/4),Q604,605
REG+9V
+5V REG
ATF+5V
IC102
DRIVE+9V
5V 5V
4.2Vp-p
TP102 REC/PB
TP102
S REF
RF CONT
002-3
002-2
AFM/PCM AUDIO (MB-19P)
DRUM ERROR
002-11
DRUM BIAS
002-12
CAPSTAN CURRENT
905-6
NO USE
CAPSTAN ERROR
002-6
CAPSTAN FG (IC106⑭)
IC605(4/5)
STARTER MMV
D110
SP/LP
CAP ON
CAPSTAN BIAS
002-7
RV001 CAPSTAN BRAKE
IC304(2/2)
L:FH MSK
L:CAP ON
D302
CAPSTAN BRAKE PULSE GENERATOR
PAUSE
L:REEL DIR
L:CAP ON
CAP FWD/RVS
IC305 Q307 ~ 309
CAPSTAN TIMING CONTROL
TP302
CAP ON
CAP L:FWD/RVS
002-8
002-10
T-CAP F/P
T-CAP ON
Q950
N.F.B
DRIVE+9V
IC804(1/2)
DRUM POWER AMP
POWER DRIVE
Q809
812-11
812-12
814-2
812-21
812-13
DRUM ERROR
DRUM BIAS
XO CANC
MRF SWP
IC809
F.E HEAD XO CANCEL
RV802 XO GAIN
RV803 XO PHASE
DRUM ON
IC801
DRUM MOTOR DRIVE
DMC
DMV
DMW
805-3
805-1
805-2
805-4
M901 DRUM MOTOR
812-6
812-7
CAPSTAN ERROR
CAPSTAN BIAS
IC804(2/2)
CAPSTAN POWER AMP
Q806,880
POWER DRIVE
Q807
812-9
CAPSTAN ON CONT
GAIN SW
REG 5V(ANA)
Q908,909
EMERGENCY STOP
812-8
812-10
CAPSTAN ON
CAPSTAN L:FWD/RVS
IC802
CAPSTAN MOTOR DRIVE
CMU
CMV
CMW
808-1
808-2
808-3
M903 CAPSTAN MOTOR
VHE(+)
VHE(-)
UHE(+)
UHE(-)
WHE(+)
WHE(-)
808-5
808-6
808-7
808-8
808-9
808-10
HALL DEVICE
D803
LEVEL SHIFT
(See Page 125)
MD-23P BOARD (2/4)
DRUM MOTOR ASS'Y (2/2)
(See Page 127)
CAPSTAN MOTOR ASS'Y (2/2)
(See Page 127)
SYSTEM CONTROL (SE-10P)
RV301 SP FHG
RV302 LP FHG
L:SP/H:LP (SINK)
IC303(3/3)
IC301(2/2)
FH BIAS AMP
Q302,303,D301
FH COMPENSAT WAVE
IC302
FH CONTROL SWITCH
TP301
IC301(1/2)
SLOW/STEP FH COMPENSAT
H:SLOW
IC108(1/4)
RV303 FWD FH
Q306
Q305
Q304
H:REEL DIR
L:REEL DIR
FH CONT 1
+5V
REEL DIR
D107
RV104 SP SLOW
RV103 LP SLOW
L:LP/H:SP (SINK)
IC105(2/3)
Q107
Q108
RV105 LP FREE
RV106 SP FREE
L:SP/H:LP (SINK)
IC202(2/4)
SLOW BIAS
IC105(3/3)
L:PB PAUSE
IC107(2/2)
BUFF
5Vp-p
2V
TP103 REC/PB
Q209
D201
TSA
PAUSE
R173
SP/L:LP (SOURCE)
IC103
IC108(2/4)
ATF GAIN SW
RV201 ATF BALANCE
FL202 16KHz BPF
FL201 47KHz BPF
IC201(2/2)
ENV DET
SAMPLING HOLD
ATF ERROR AMP
SCHMITT
TP202
L:ATF LOCK
BALANCED MODULATOR
IC106 (5/5)
SEL16
ATF SW
L:REEL DIR
D004
Q016
N PULSE
TSB
D004,005
IC203(1/3)
AGC HOLD
PAUSE
IC202(1/4)
BUFF
IC202(3/4)
BUFF
TP203
IC202(4/4)
ID AMP
TP204
STILL ID (SYSTEM CONTROL)
RV203 STILL1
IC203(3/3)
STILL SW
RV204 STILL2
H:SP/L:LP (SOURCE)
Q205
L/P/L:SP (SOURCE)
D108 Q104
XO CANC
003-2
RP AFREC
AUTO
PAUSE
L:FH MSK
REEL SWG
SP/L:LP(SOUCE)
Q115 Q114 D104 D105 R165
IC103
IC106(3/5)
RF CONT
H:SP/L:LP (SINK)
TP104
Q110
HCHG
IC106(2/5)
TEST
TP103
RF SW PULSE
AUTO
TP206
M RF SWP
002-21
903-6
AFM/PCM AUDIO (MB-19P)
TP601
RF PK
IC604(1/2)
RF PEAK DETECTOR
NO USE
905-8
905-9
SP PK DET
LP PK DET
IC602(1/2)
SP/LP RF AMP/CLAMP
011-1
011-7
003-5
004-6
SP PB RF
LP PB RF
COMP SYNC
Q601
GAIN CONTROL SW
GAIN CONTROL
IC603
COMPARATOR
IC602(2/2)
COMPARATOR
D.FF
COMP.SYNC
COMPA CONT
IC603
WAVE SHAPER
IC203(2/3)
H CHG
011-14
905-3
D202
JOG
RAREA
RP PB MODE
IC601
4HEAD LOGIC CONTROLLER
LP PCM REC
SP PCM REC
LP V REC
SP V REC
L:SP CH SHORT
L:LP CH SHORT
V.I SWP
HHDL
011-16
011-17
011-18
011-19
011-21
011-22
004-5
004-14
REC/PB HEAD AMP (FR-43)
CHROMA PROCESS (HK-5)
Y PROCESS (HK-5)
003-3
011-15
D RF SWP
RP RF SWP
REC/PB HEAD AMP (FR-43)
AFM/PCM AUDIO (MB-19P)
Y PROCESS (HK-5)
Q409-411
LIMITER AMP
Q401-408
HI BAND DETECTOR
HB DET
SYSTEM CONTROL
E/L:MP
(See Page 107)
SE-10P BOARD (1/2)
EVO-9500P

3-8. SYSTEM CONTROL BLOCK DIAGRAM


(See Page 138)
MB-19P BOARD
S645 STOP
S646 REC
S647 FF
S648 POWER
S649 -X1
S641 EJECT
S642 PB
S643 PAUSE
S644 REW
FUNC KEY2
FUNC KEY 1
601-17
601-18
MD
FUNCTION CONTROL (FB-169P)
POWER (POWER BLOCK)
AFM/CPM AUDIO (MB-19P)
CHECK PIN
NO USE
Y PROCESS (HK-5)
CHROMA PROCESS (HK-5)
RS
REC/PB HEAD AMP (FR-43)
AFM/PCM AUDIO (MB-19P)
902-1 PFS
902-2 PFS LED
903-2 MS02
903-3 MS12
903-4 L;SCK2
903-7 L;MODE CS
903-9 L;ENABLE
903-8 L;POWER ON
907-1
002-30 L;PCC CS
001-8 L;IDM CS
001-4 FUNC KEY 2
001-2 FUNC KEY 1
001-1
902-8 FUNC KEY 1
902-7 FUNC KEY 2
902-6 FUNC KEY 3
902-9 STILL ADJ
902-10 SLOW TR
902-5 L;STB
901-5 FUNC KEY 4
901-2 L;LCD BUSY
901-3 H;TC/L;REEL
901-4 H;SP/L;LP
901-6 L;LCD CS
901-7 H;COM/L;DATA
904-1 L;FEEDER
005-8 L;AFM STEREO
005-11 V PB MODE
005-15 HK
005-10 L;AGC FAST
005-13 MPHG
012-3
005-4 V MUTE
IC001 MODE CONTROL
CST DOWN(1)
L;CST IN(1)
L;POWER ON(1)
POWER ON(0)
L;PCC CS
L;IDM CS
AFM STEREO CONT
FUNC KEY 1
FUNC KEY 2
FUNC KEY 3
FUNC KEY 4
STILL ADJ
SLOW TR
L;STB
L;LCD BUSY
H;TC/L;REEL
H;SP/L;LP
L;LCD CS
H;COM/L;DATA
L;FEEDER
AFMSTEREO
V PB MODE
HK
L;AGC FAST
MPHG
MUTE
LP HK
SI
MSI 2
SO
MSO 2
L;SCK
SCK 2
L;MODE CS
L;ENABLE
L;MECH CS
L;HM CS
MPHG
L;ATF IN H
L;PCM ATF
L;VINS
HB DET
RP AFREC
L SW C
L;RES
JOG VD INT
RF SWP
X
EX
L;RESET
Q002
D010
SERVO
IC008 INITIAL RESET
UNSW +5V
X001 8MHz OSC
5.4Vp-p
16MHz
IC001 (34) REC/PB
6.5Vp-p
5MHz
IC002 (31) REC/PB
6.4Vp-p
4.98MHz
IC003 (31) REC/PB
011-13 RP PB MODE
011-20 JOG
005-7 JOG VD
005-5
005-1 DOD
Q006
Q015
Q014
D008 Q005
Q112,113 DOD SWITCH
903-10 L;FH MSK
002-19 L;FE ON
002-20 L;FH MSK
005-12 L;LP/H;SP
902-12 L;SCK
902-11 MSO
902-4 L;RESET
001-3 RESET
001-6 MSI
001-5 MSO
001-7 L;SCK
IC007(1/2)
IC007(2/2)
+5V
TP002
IC003 ATF CONTROL
PFS LED
PFS LED
PFS ATF
SI
SO
L;SCK
L;INH SP/LP
NTSC/L;PAL
RF PK
L;RST
TOP
END
L;ATF CS
XTAL
EXTAL
X001 5MHz OSC
CASECON UP
CASECON DOWN
L;CASSETTE DOWN
L;CASSETTE IN
LOAD
UNLOAD
L SW A
L SW B
L SW C
LA
LB
LC
CONT L
CONT R
M SW A
M SW B
M SW C
MA
MB
MC
L;TOP
L;END
L;START
L;HOLD
SEL1
BIAS DOWN
L;FF/L;REW
SEL2
STILL SW
SEL 16
HCHG
TSA
TSB
L;ATF LOCK
JOG VD INT
35 SO
L;35 SCK
L;35 CS
35 SI
H;ME/L;MP
RF SWP
RF SW PULSE
M 35 DATA
L;SCK
L;35 SC
35 M DATA
TO SERVO
AUTO
MPHG 012-3
CASECON UP 001-15
CASECON DOWN 001-14
L;CASSETTE DOWN 001-13
L;CASSETTE IN 001-12
L;CONT M LEFT 904-2 NO USE
LOAD 012-4
UNLOAD 012-5
L SW A 012-21
L SW B 012-1
L SW C 012-20
CONT L 012-7
CONT R 012-6
M SW A 012-12
M SW B 012-13
M SW C 012-11
L;TOP 001-10
L;END 001-11
L;START 012-9
L;HOLD 012-10
SEL1 906-2
906-5
004-17
SEL2 906-3
906-6
004-18
TAPE PATH ADJ
TAPE PATH ADJ
CHROMA PROCESS (HK-5)
Q003
Q004
D003
L SW C
M SW B
IC002 MECHANISM CONTROL
X002 5MHz OSC
L;ATF CS
END
TOP
L;RST
SO
SI
L;SCK
L;MECH CS
AUTO
L;X1
RF PK
GAIN CONT
COMP A CONT
RP PB MODE
JOG VD
DOD
L;FEON
L;EMRG OFF
TP001
RF SWP
RF SWP
L;DRUM ON
REEL DIR
JOG
JOG VD INT
REEL SWG
FH CONT2
FH CONT1
CAP FG
ST ID
SLOW
L;HI REV
L;HI CUE
L;CUE
L;REV
REEL FWD/RVS
REEL BRAKE
L;PB PAUSE
L;CAP ON
H;SP/L;LP
REEL FLYING
L;RVS SLOW
L;REEL RVS ON
L;REEL START
R RVS MODE
CAP FWD/RVS
L;FH MSK
PAUSE
L;PB PAUSE
L;CAP ON
H;SP/L;LP
Q109
D0-D4
Q008
DRUM ON 002-13
SERVO (MD-23P)
REEL FWD/RVS 001-17
L;REEL BRAKE 001-18
L;CUE 002-4
L;HI CUE 002-5
Q713
CAP ON CONT 002-9
IC004 REEL CONTROL
CAP FWD/RVS
L;CAP ON
L;EMRG OFF
L;RESET
SO
SI
L;SCK
L;HMS CS
V MUTE
D0
D4
56-52
L;PB PAUSE
JOG VD INT
ATF SW
N PULSE
SP X2
L;-X3
L;-X1
REEL0
REEL7
6-1,64,63
L;REEL SERVO ON
SFG
TFG1
TFG1
SFG
TFG2
REC PROOF
H;ME/L;MP
X2
X1
4.19MHz OSC
5.4Vp-p
4.14MHz
IC004 (9) REC/PB
Q011
DIFEER-ENTIAL
Q007,008,D006,011
D → A CONV
REELBIAS 001-16
L;REEL SERVO ON 002-1
SFG 012-17
TFG1 012-16
TFG2 012-19
005-14
011-23
H;ME/L;MP 012-14
REC PROOF 012-8
(See Page 107)
SE-10P BOARD (2/2)
EVO-9500P


IC003 ATF CONTROL
IC002 MECHANISM CONTROL
IC004 REEL CONTROL
IC007(1/2)
IC007(2/2)
X001 5MHz OSC
X002 5MHz OSC
4.19MHz OSC
TP001
TP002
Q003
Q004
Q008
Q014
Q109
Q713
Q011 DIFFER-ENTIAL
Q007,008,Q006,011 D→A CONV
6.4Vp-p
5.4Vp-p
4.14MHz
IC004 ⑨ REC/PB
TO SERVO
SERVO (MD-23P)
TAPE PATH ADJ
CHROMA PROCESS (HK-5)
Y PROCESS (HK-5)
REC/PB HEAD AMP (FR-43)
NO USE
(See Page 107)
SE-10P BOARD(2/2)
EVO-9500P
IC806 CASECON MOTOR DRIVE
Q811 DRIVE
Q810 DRIVE
IC805(1/2) TAPE TOP DETECTOR
IC805(2/2) TAPE END DETECTOR
M904 CASSETTE COMPARTMENT MOTOR
S903 CASSETTE LOCK
S901 CASSETTE LOADING
D715 TAPE TOP SENSOR
TS-74(R)BOARD
(See Page 125)
D715 TAPE END SENSOR
TS-74(L)BOARD
(See Page 125)
(See Page 125)
MD-23P BOARD(3/4)
RS-31BOARD
(See Page 131)
D001 TAPE RED
LD-1 BOARD
(See Page 131)
IC302 LOADING MOTOR DRIVE
M906 LOADING MOTOR
LOADING SWITCH
LS-9 BOARD
(See Page 133)
IC301 CONTROL MOTOR DRIVE
M905 CONTROL MOTOR
MODE SWITCH
MS-4 BOARD
(See Page 133)
Q301,302 SOLENOID START
Q303,304 SOLENOID HOLD
PM901 BRAKE SOLENOID
Q305,PH303 S-REEL FG SENSOR
Q306,PH301 T-REEL 1 FG SENSOR
Q307,PH302 T-REEL 2 FG SENSOR
S904
ME/MP REC PROOF MP HG
IC901 REEL MOTOR DRIVE
Q903 DRIVE
Q901 DRIVE
Q902 DRIVE
3STATE 0V FWD 2.5V STOP 5V RVS
IC903
WAVE SHAPER
TP901
F→V CONV
ERROR AMP
IC902(1/3) REEL ERROR AMP
IC904(1/2)
IC902(3/3) REEL ERROR AMP
IC904(2/2)
Q812,813 POWER DRIVE
TP902
Q904,905 FREQUENCY SWITCH
RV901 REEL SPEED
TP903
Q906
IC902(2/3) REEL BIAS AMP
Q907
Q820,821 +5V REG
DRIVE +9V
DRIVE +5V
M902 REEL MOTOR
HALL DEVICE
REEL MOTOR ASSY
(See Page 127)
(See Page 125)
MD-23P BOARD(4/4)

3-9. SYSTEM CONTROL — VIDEO BLOCK INTERFACE

SIGNAL	I/O	PIN No.	STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	× 1	− × 1	× 2	− × 3	CUE (× 9)	REV (− × 7)	SLOW (1/5)	SLOW (− 1/5)
JOG	O	Pin ⑨ of IC002	L	L	L	L	L	H	H	L	H	H	H	H	H	H	H	H	H
$\overline{\times 1}$	O	Pin ㊲ of IC002	H	H	H	H	H	H	H	H	H	L	H	H	H	H	H	H	H
GAIN CONT	O	Pin ㊶ of IC002	H	H	H	H	H	H	H	H * 1	H * 1	H * 1	H * 1	H * 1	H * 1	H * 1	H * 1	H * 1	H * 1
COMPA CONT	O	Pin ㊷ of IC002	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L
JOG VD	O	Pin ㊺ of IC002	H					$\overline{\text{VD}}$ pulse		H	$\overline{\text{VD}}$ pulse								
SP/$\overline{\text{LP}}$	O	Pin ㊿ of IC002	It is "H" when recording or playback in SP mode.																
DOD	O	Pin (63) of IC002	L	L	L	L	L	H	L	L	L	L	H	H	H	H	H	L	H
VIDEO MUTE	O	Pin ⑳ of IC004	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
ME/$\overline{\text{MP}}$	O	Pin ⑭ of CN012	It is "L" when using MP tape or MPHG tape.																

*1. It is "L" when LP mode.

3-10. SYSTEM CONTROL — SERVO (CAPSTAN MOTOR) BLOCK INTERFACE

SIGNAL	I/O	PIN No.	STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	× 1	− × 1	× 2	− × 3	CUE (× 9)	REV (− × 7)	SLOW (1/5)	SLOW (− 1/5)
$\overline{\text{CAP ON}}$	O	Pin ④ of IC002	H	H	H	L	H	L	H	L	H	L	L	L	L	L	L	* 1	* 1
CAP $\overline{\text{FWD}}$/RVS	O	Pin ⑤ of IC002	L	L	L	L	L	L	L	L	L	L	H	L	H	L	H	* 1	* 1
D0 − D4	O	Pin ⑯ ~ ⑳ of IC002	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"2"	"2"	"9"	"7"	"1"	"1"
$\overline{\text{PB PAUSE}}$	O	Pin ㉓ of IC002	H	H	H	H	H	H	L	H	L	H	H	H	H	H	H	L	L
$\overline{\text{CUE}}$	O	Pin (51) of IC002	H	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H	H
$\overline{\text{REV}}$	O	Pin (52) of IC002	H	H	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H
$\overline{- \times 1}$	O	Pin ⑯ of IC004	H	H	H	H	H	H	H	H	H	H	L	H	H	H	H	H	H
$\overline{- \times 3}$	O	Pin ⑮ of IC004	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H	H	H

D4 MSB
D0 LSB
Decimal

*1. Pulse output

3-11. SYSTEM CONTROL — SERVO (DRUM MOTOR) BLOCK INTERFACE

SIGNAL	I/O	MODE PIN No.	STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	×1	−×1	×2	−×3	CUE (×9)	REV (−×7)	SLOW (1/5)	SLOW (−1/5)
DRUM ON	O	Pin ⑧ of IC002	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
FH CONT2	O	Pin ⑬ of IC002	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	∗1	∗1
SLOW	O	Pin ㉒ of IC002	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	H
FH CONT1	O	Pin ㉗ of IC002	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	∗1	∗1
FH MASK	O	Pin (53) of IC002	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	∗1	∗1

*1. Pulse output

3-12. SYSTEM CONTROL — SERVO (REEL MOTOR) BLOCK INTERFACE

SIGNAL	I/O	MODE PIN No.	STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	×1	−×1	×2	−×3	CUE (×9)	REV (−×7)	SLOW (1/5)	SLOW (−1/5)
REEL DIR	O	Pin ② of IC002	H/L	L	H	L	L	L	L	L	H/L	L	H	L	H	L	H	L	H
REEL FLYING	O	Pin ③ of IC002	Normally "L". "H" pulse when change from STOP to FF/REW mode.																
REEL RVS SLOW	O	Pin ⑥ of IC002	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	L
REEL RVS ON	O	Pin ⑦ of IC002	Normally "H". "L" pulse when change from FORWARD to REVERSE (over −×1 speed).																
REEL START	O	Pin ⑩ of IC002	Normally "H". "L" pulse when change from STOP to FF/REW mode.																
R RVS MODE	O	Pin ⑪ of IC002	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
REEL SWG	O	Pin ⑫ of IC002	Normally "L". "H" pulse when change the direction from FORWARD to REVERSE, and vice versa.																
REEL FWD/RVS	O	Pin (60) of IC002	2.5V	L	H	L	2.5V	L	2.5V	L	2.5V	L	H	L	H	L	H	"H" Pulse	"L" Pulse
REEL BRK	O	Pin (62) of IC002	Normally "H". "L" pulse when change from REC to REC•PAUSE mode.																
REEL 0~7	O	Pin ①~⑥, (63), (64) of IC004	"70"	"96"	"96"	"54"	"54"	"54"	"54"	"54"	"70"	"54"	∗2	"70"	∗2	∗3	∗3	"70"	"63"
RELL SERVO ON	O	Pin ⑲ of IC004	H	H	H	H	H	H	H	H	H	L	H	L	H	L	H	H	H

REEL 7 MSB
REEL 0 LSB
BCD code

*1. Pulse output
*2. Changes according to the period of SFG
*3. Changes according to the tape speed (SP/LP)

3-13. SYSTEM CONTROL — SERVO (ATF SERVO) BLOCK INTERFACE

	MODE		STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	×1	−×1	×2	−×3	CUE (×9)	REV (−×7)	SLOW (1/5)	SLOW (−1/5)
SIGNAL	I/O	PIN No.																	
RP PB MODE	O	Pin ㊹ of IC002	H	H	H	L	L	H	H	H	H	H	H	H	H	H	H	H	H
JOG VD INT	I	Pin (59) of IC002, 003	L	Pulse input															
SEL 2	O	Pin ① of IC003	H	H	H	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
SEL16	O	Pin ② of IC003	L	L	L	*2	L	*2	L	*2	L	*2	*2	*2	*2	*2	*2	*2	*2
TSA	O	Pin ④ of IC003	L	L	L	L	L	*2	L	*2	L	*2	*2	*2	*2	L	L	L	L
TSB	O	Pin ⑤ of IC003	L	L	L	L	L	*2	L	*2	L	*2	*2	*2	*2	L	L	L	L
M RF SW PULSE	I	Pin ㊽, ㊾ of IC003	H/L	FIELD sync pulse															
SEL 1	O	Pin (64) of IC003	H	H	H	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
ATF SW	O	Pin ⑫ of IC004	L	L	L	L	L	L	*1	L	*1	L	L	L	L	L	L	*1	*1
N PULSE	O	Pin ⑬ of IC004	L	L	L	L	L	L	*1	L	*1	L	L	L	L	L	L	*1	*1

*1. Pulse output

*2. Pulse output with ATF sequence

3-14. SYSTEM CONTROL — SERVO (STILL) BLOCK INTERFACE

	MODE		STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	×1	−×1	×2	−×3	CUE (×9)	REV (−×7)	SLOW (1/5)	SLOW (−1/5)
SIGNAL	I/O	PIN No.																	
RF PK	I	Pin (61) of IC002	Pulse input in PB PAUSE mode.																
STID	I	Pin (64) of IC002	Pulse input in PB PAUSE mode.																
STILL SW	O	Pin (51) of IC003	V duration pulse input (‾‾|__|‾‾|__)																

3-15. SYSTEM CONTROL — SERVO (HEAD SELECTING) BLOCK INTERFACE

	MODE		STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	×1	−×1	×2	−×3	CUE (×9)	REV (−×7)	SLOW (1/5)	SLOW (−1/5)
SIGNAL	I/O	PIN No.																	
AUTO	O	Pin ㊳ of IC002	L	L	L	L	L	L	L	L	L	L	L	L	L	H	H	*1	*1
SP/$\overline{\text{LP}}$	O	Pin ㊿ of IC002	"H" when record or play back in SP mode.																
HCHG	O	Pin ③ of IC003	*1	*1	*1	*1	*1	*1	*2	*1	*2	*1	*2	*2	*2	*2	*2	*2	*2

*1. Depending upon a tape speed (SP/LP).

*2. Pulse output

3-16. SYSTEM CONTROL — SERVO (OTHERS) BLOCK INTERFACE

SIGNAL	.I/O	PIN No.	STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	×1	−×1	×2	−×3	CUE (×9)	REV (−×7)	SLOW (1/5)	SLOW (−1/5)
JOG	O	Pin ⑨ of IC002	L	L	L	L	L	H	H	L	H	H	H	H	H	H	H	H	H
CAP FG	I	Pin ㊵ of IC002	Undefined			∗1	Undefined	∗1	Undefined	∗1	Undefined	∗1	∗1	∗1	∗1	∗1	∗1	∗1	∗1
$\overline{\text{M ATF LOCK}}$	I	Pin (56) of IC003		∗1	∗1					∗2		∗2	∗2	∗2	∗2	∗1	∗1		

*1. Pulse output

*2. "L" when ATF servo is phase locked.

3-17. SYSTEM CONTROL — MD BLOCK INTERFACE

SIGNAL	I/O	PIN No.	STOP	FF	REW	REC	REC• PAUSE	AUDIO DUB	AUDIO DUB PAUSE	PB	PB• PAUSE	×1	−×1	×2	−×3	CUE (×9)	REV (−×7)	SLOW (1/5)	SLOW (−1/5)
LOAD	O	Pin ⑥ of IC003	Normally "L". "H" in tape threading.																
UNLOAD	O	Pin ⑦ of IC003	Normally "L". "H" in tape unthreading.																
CASECON UP	O	Pin ⑧ of IC003	Normally "L". "H" in cassette unloading.																
CASECON DOWN	O	Pin ⑨ of IC003	Normally "L". "H" in cassette loading.																
MA~MC	I	Pin ⑫⑬⑭ of IC003	"3"	"6"	"6"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"	"1"
LA~LC	I	Pin ⑯⑰⑱ of IC003	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"	"3"
CONTL	O	Pin ⑳ of IC003	Normally "L". "H" when change to mechanism mode.																
CONTR	O	Pin ㉑ of IC003	Normally "L". "H" when change to mechanism mode.																
$\overline{\text{START}}$	O	Pin ㉒ of IC003	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
$\overline{\text{HOLD}}$	O	Pin ㉓ of IC003	H	L	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H
$\overline{\text{CST IN}}$	I	Pin ㊻ of IC003	Normally "L". "H" when cassette is ejected.																
$\overline{\text{CC DOWN}}$	I	Pin ㊼ of IC003	"H" in eject condition. "L" when cassette compartment comes down.																
$\overline{\text{TOP}}$	I	Pin (54) of IC003	Normally "H". "L" at tape top. } When both signals are "H", it is judged that the cassette is loaded. When "L", it is judged that the cassette is unloaded.																
$\overline{\text{END}}$	I	Pin (55) of IC003	Normally "H". "L" at tape end.																
SFG	I	Pin ㉙㉝ of IC004	Undefined	∗1	∗1	∗1	Undefined	∗1	Undefined	∗1	Undefined	∗1	∗1	∗1	∗1	∗1	∗1	∗1	∗1
TFG1	I	Pin ㉚㉞ of IC004	Undefined	∗1	∗1	∗1	Undefined	∗1	Undefined	∗1	Undefined	∗1	∗1	∗1	∗1	∗1	∗1	∗1	∗1
TFG2	I	Pin ㉜ of IC004	Undefined	∗1	∗1	∗1	Undefined	∗1	Undefined	∗1	Undefined	∗1	∗1	∗1	∗1	∗1	∗1	∗1	∗1
REC PROOF	I	Pin (60) of IC004	"L" when recording enable cassette tape is inserted.																
ME/$\overline{\text{MP}}$	I	Pin (61) of IC004	"L" when MP tape or MPHG tape is used.																

MA~MC: { MA MSB, MC LSB, Decimal

LA~LC: { LA MSB, LC LSB, Decimal

*1. Pulse according to reel rotation

3-18. MODE CONTROL MICROCOMPUTER — PERIPHERAL CIRCUIT INTERFACE (IC001 (CXP80116) on SE-10P board)

Signal	I/O	PIN No.	Input/Output level
——		1	
——		2	
LCD CS	O	3	Connect to check pin. Pulse train of V interval. (‾|_|‾‾|_|‾)
COM/DATA	O	4	Connect to check pin. Pulse train of V interval. (‾‾V‾‾V‾‾)
MECH CS	O	5	Chip select signal for mechanism control. Pulse train of V interval. (‾|_|‾‾|_|‾)
REEL CS	O	6	Chip select signal for reel control. Pulse train of V interval. (‾|_|‾‾|_|‾)
PCC CS	O	7	Chip select signal for PCM microcomputer. Pulse train of V interval. (‾|_|‾‾|_|‾)
IDM CS	O	8	Chip select signal for PCM microcomputer. Pulse train of V interval. (‾|_|‾‾|_|‾)
RP AFREC	O	9	"H" in AUDIO DUB Mode.
VINS	O	10	Normally "H". Video insert signal.
LCD BSUY	I	11	Connect to check pin.
T.C /REEL	O	12	Connect to check pin.
SP/LP SW	I	13	Connect to check pin.
CASETE IN	I	14	"L" when cassette is inserted.
CCDOWN	I	15	"L" when cassette compartment comes down.
L SW C	I	16	"H" Loading switch input.
HG SW	I	17	MPHG tape detection input. "L" when MP or ME cassette is inserted.
POWER ON(I)	I	18	"L" when power is on.
POWER ON(O)	O	19	"H" when power is on.
V PB MODE	O	20	"H" when video circuit is in playback mode.
AGC FAST	O	21	Normally "L".
HK	O	22	"H" when Hi8 cassette is inserted.
MPHG	O	23	"H" when MPHG cassette is inserted.
LPHK		24	Not used.
MUTE(I)	I	25	Normally "L". "H" when change the mode from STOP to PB.
HB DET	I	26	"L" when playback the cassette other than for Hi8.
PCMATF	O	27	Normally "H".
ATF INH	O	28	Normally "H".
AFM STEREO V CONT	O	29	"H" in normal playback. "L" in record.
RESET	O	30	Reset output. "L" in reset.
MP	I	31	Microprocessor mode select terminal-not select. Connect to GND.
RESET(I)	I	32	Reset output. "L" in reset.
Vss		33	Connect to GND.
XTAL	O	34	Crystal oscillator for system clock connection terminal. Oscillating at 16MHz.
EXTAL	I	35	
——		36	
MSI	I	37	Serial data input terminal.
MSO	O	38	Not used.
SCK	I	39	Not used.
MODE CS	I	40	Chip select signal to IC001 on the FB-169board. Pulse train of V interval.

Signal	I/O	PIN No.	Input/Output level
MSI2	I	41	Communication signal between IC001 (Mode controller) on the FB-169. Pulse train of V interval.
MSO2	O	42	Communication signal between IC001 (Mode controller) on the FB-169. Pulse train of V interval.
SCK2	O	43	Communication signal between IC001 (Mode controller) on the FB-169. Pulse train of V interval.
FEEDER	I	44	Not used.
TEST	I	45	Not used. Fix to "H" level.
FUNC KEY4	I	46	Not used.
FUNC KEY3	I	47	Not used.
FUNC KEY2	I	48	Not used.
FUNC KEY1	I	49	Not used.
SLOW TR	I	50	SLOW ADJ input. Voltage according to SLOW ADJ control position. (0-5Vdc)
STILL ADJ	I	51	STILL ADJ input. Voltage according to STILL ADJ control position. (0-5Vdc)
AVss		52	Connect to GND.
AVREF	I	53	Connect to UNSW5V.
AVDD	I	54	Connect to UNSW5V.
SW PLS	I	55	RF SW PULSE input. Pulse train of 2V interval. (‾|_|‾‾|_)
JOG VD INT	I	56	JOG VD input for digital servo IC (IC101 20035). Interrupt signal for microcomputer. Pulse train of V interval.
AFM STEREO CONT(I)	I	57	Not used. Fix to "H" level.
——		58	
——		59	
——		60	
——		61	
——		62	
——		63	
——		64	
ENABLE	I	65	Communication signal to IC001 (Mode controller) on the FB-169 board. Pulse train of V interval. (‾|_|‾‾|_|‾)
SP STB	O	66	Not used.
——		67	
——		68	
NT/PAL	I	69	Fix to "H" level.
INTD	I	70	Fix to "H" level.
NMI	I	71	Fix to "H" level.
VDD		72	Connect to UNSW5V.
Vss		73	Connect to GND.
VPP		74	Connect to UNSW5V.
——		75	
——		76	
——		77	
——		78	
——		79	
——		80	

3-19. SYSTEM CONTROL — PCM AUDIO BLOCK INTERFACE

Signal	I/O	PIN No.	Input/Output level
$\overline{\text{FE ON}}$	O	Pin ㉙ of IC002	Normally "H". "L" in recording or AUDIO DUB.
FH MASK	O	Pin (53) of IC002	"L" pulse during slow playback. "H" in other playback modes.

3-20. SERVO — VIDEO BLOCK INTERFACE

Signal	I/O	PIN No.	Input/Output level
LP PCM REC	O	Pin ① of IC601	Normally "L". "H" pulse of V period in LP mode recording (including AUDIO DUB).
SP PCM REC	O	Pin ② of IC601	Normally "L". "H" pulse of V period in SP mode recording (including AUDIO DUB).
VI SWP	O	Pin ③ of IC601	2V period 50% duty pulse.
$\overline{\text{SP CH SHORT}}$	O	Pin ④ of IC601	Normally "H". "L" in LP recording/playback mode.
$\overline{\text{LP CH SHORT}}$	O	Pin ⑤ of IC601	Normally "L". "H" in LP recording/playback mode.
HH DL	O	Pin ⑦ of IC601	Normally "H". Pulse of variable speed playback.
SP VIDEO REC	O	Pin ⑧ of IC601	Normally "L". "H" in SP recording mode.
LP VIDEO REC	O	Pin ⑨ of IC601	Normally "L". "H" in LP recording mode.
COMP SYNC	I	Pin ⑥ of CN004	Positive composite sync signal.
REF V	I	Pin ⑥ of CN005	"L" pulse of V interval.
H CHG	O	Pin ⑭ of CN001	"H" in SP recording/playback mode. "L" in LP recording/playback mode. Variable speed playback pulse.

3-21. PCM AUDIO — VIDEO BLOCK INTERFACE

Signal	I/O	PIN No.	Input/Output level
$\overline{\text{M FE ON}}$	O	Pin ① of IC601	Normally "H". "L" in recording. "L" pulse of 2V period in AUDIO DUB.
RP AFTER REC	O	Pin (60) of IC601	Normally "L". "H" in AUDIO DUB.
D RF SWP (RP RF SWP)	O	Pin ㉓ of PD-19 board	2V period 50% duty pulse.
RAMP	O	Pin ㊻ of PD-19 board	Normally "L". "H" in AUDIO DUB. ("H" pulse of V interval)
C MUTE	O	Pin (54) of PD-19 board	Normally "L". "H" in AUDIO DUB. ("H" pulse of V interval)
HD INSERT	O	Pin (55) of PD-19 board	Normally "L". "H" pulse of H period in AUDIO DUB. ("H" Pulse of H interval)
AFTER REC MASC	O	Pin (56) of PD-19 board	Normally "L". "H" in AUDIO DUB. ("H" pulse of V interval)

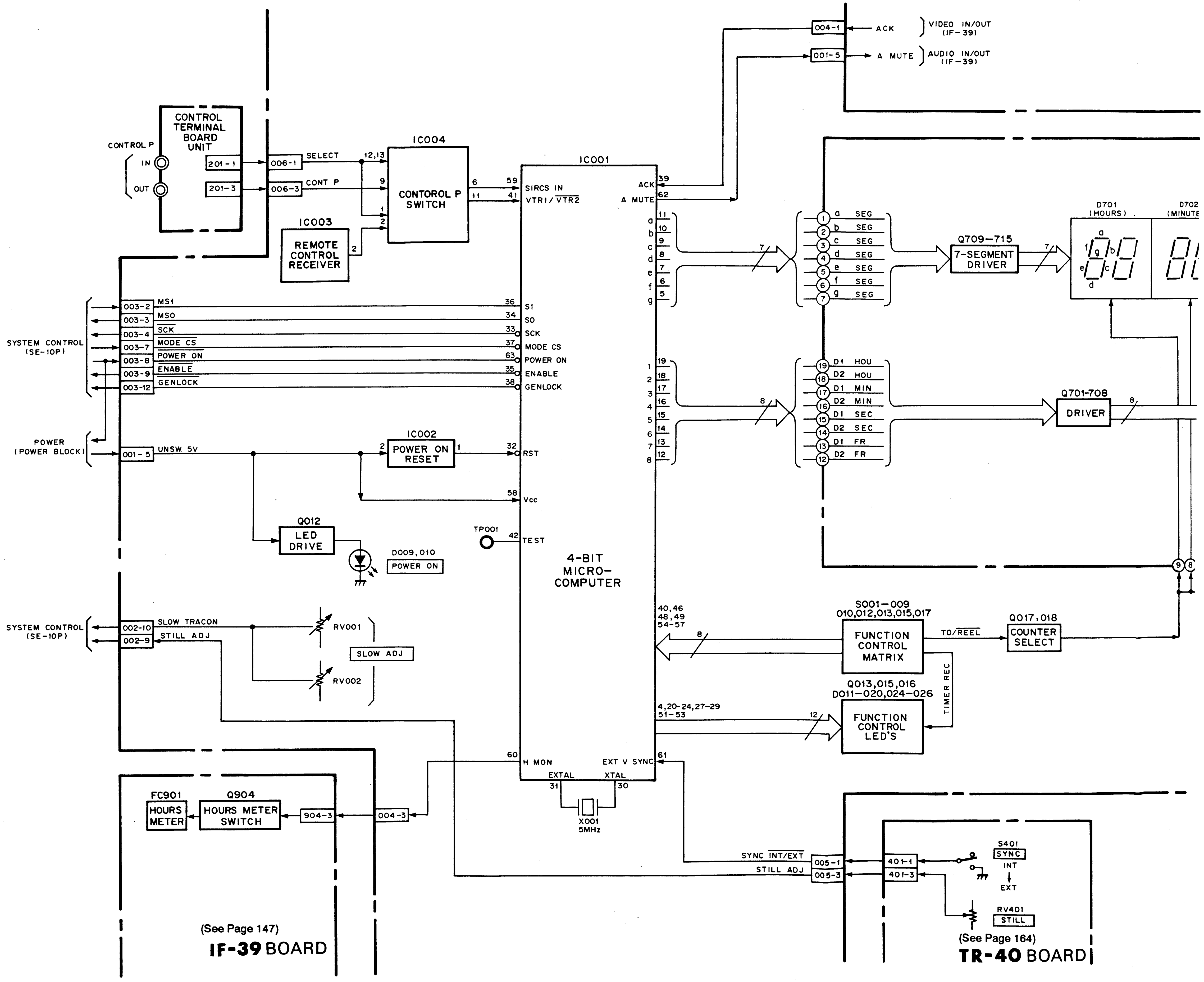
3-22. PCM AUDIO — SERVO BLOCK INTERFACE

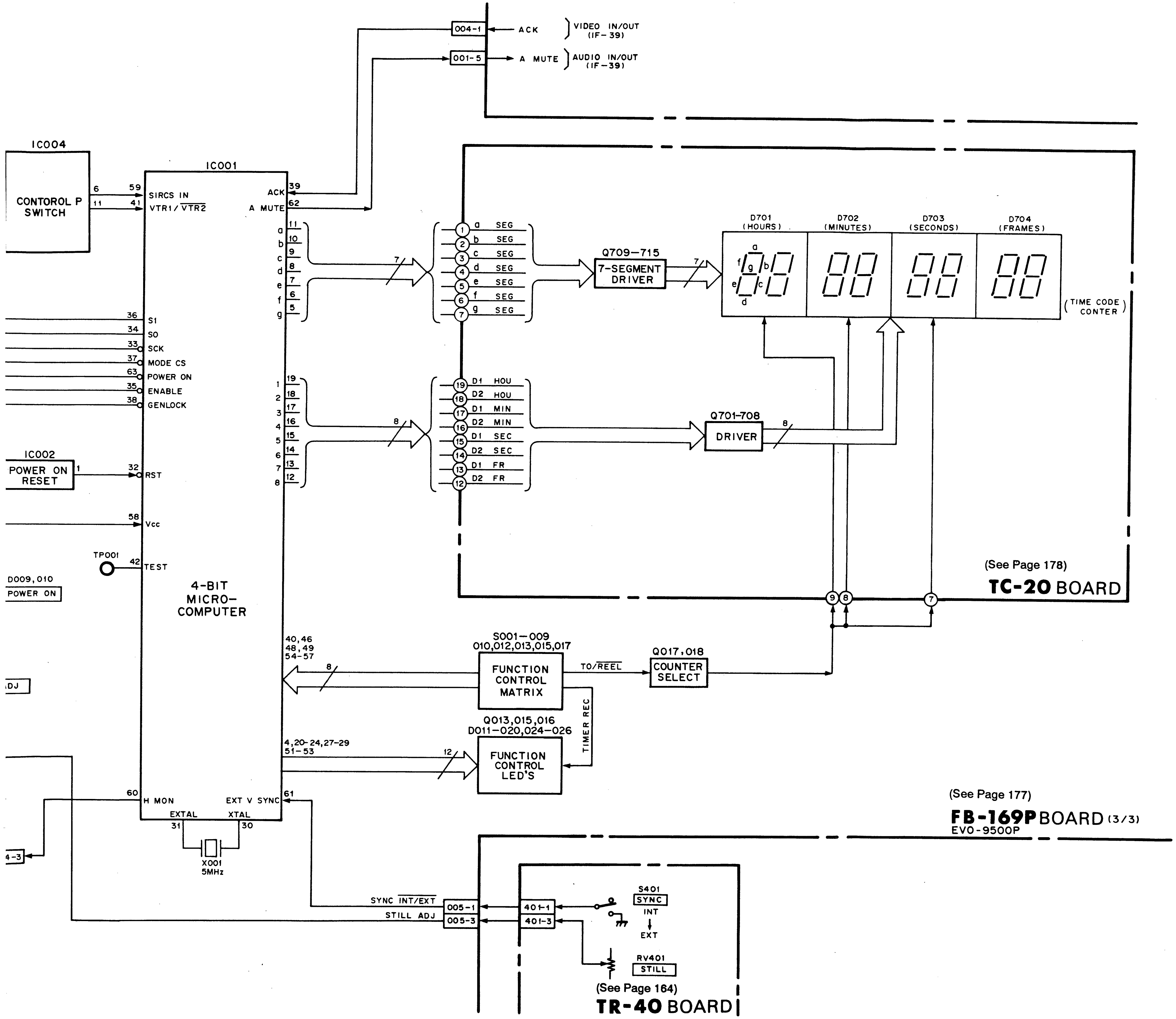
Signal	I/O	PIN No.	Input/Output level
RF CONT	I	Pin ㉙㉚ of IC601	2V period 50% duty pulse.
MS REF	I	Pin ⑭ of RD-19 board	"H" pulse of V period.
R AREA	O	Pin ㊼ of RD-19 board	Normally "L". "H" pulse of V period in record (including AUDIO DUB).
D RF SWP	O	Pin ㊽ of RD-19 board	2V period 50% duty pulse.
RF AREA	O	Pin (57) of RD-19 board	Normally "L". "H" pulse of V period in record (including AUDIO DUB).
RF CONT SWP	I	Pin (58) of RD-19 board	2V period 50% duty pulse.

3-23. PCM AUDIO — AUDIO BLOCK INTERFACE

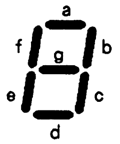
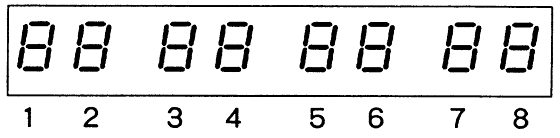
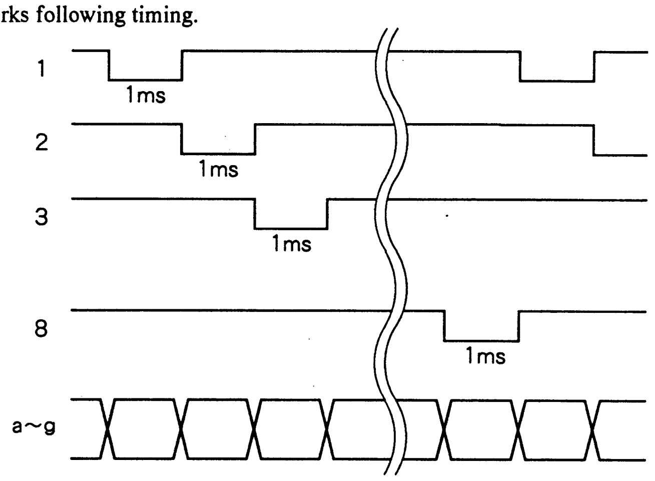
Signal	I/O	PIN No.	Input/Output level
MONO/$\overline{\text{STE}}$ OUT	O	Pin ⑪ of IC601	Normally "L". "H" when monaural PCM audio signal is played back.
MONO/$\overline{\text{STE}}$ IN	I	Pin ㊴ of IC601	Normally "L". Goes to "H" in microphone input or monaural PCM audio signal is played back by player.
PCM MUTE	O	Pin ㊾ of IC601	"H" when PCM audio signal can not be played back or at the mode transition.
AFM REC/$\overline{\text{PB}}$	O	Pin (51) of IC601	Normally "H". "L" in playback (including variable speed playback).
AFM MUTE	O	Pin (55) of IC601	Normally "L". "H" in the mode transition.
$\overline{\text{AUEE}}$ PORT	O	Pin (56) of IC601	Normally "L". "H" in playback (including variable speed playback).
MODE	O	Pin ㉙ of RD-19 board	Normally "L". "H" in playback (including variable speed playback).

3-24. FUNCTION CONTROL BLOCK DIAGRAM


CONTROL TERMINAL BOARD UNIT
CONTROL P
IN
OUT
201-1
201-3
006-1
006-3
SELECT
CONT P
IC004
CONTOROL P SWITCH
IC003
REMOTE CONTROL RECEIVER
IC001
SIRCS IN
VTR1/VTR2
ACK
A MUTE
004-1
001-5
ACK
A MUTE
VIDEO IN/OUT (IF-39)
AUDIO IN/OUT (IF-39)
SYSTEM CONTROL (SE-10P)
003-2 MS1
003-3 MSO
003-4 SCK
003-7 MODE CS
003-8 POWER ON
003-9 ENABLE
003-12 GENLOCK
SI
SO
SCK
MODE CS
POWER ON
ENABLE
GENLOCK
POWER (POWER BLOCK)
001-5
UNSW 5V
IC002
POWER ON RESET
RST
Vcc
Q012
LED DRIVE
D009,010
POWER ON
TP001
TEST
4-BIT MICRO-COMPUTER
a SEG
b SEG
c SEG
d SEG
e SEG
f SEG
g SEG
Q709-715
7-SEGMENT DRIVER
D701 (HOURS)
D702 (MINUTE
D1 HOU
D2 HOU
D1 MIN
D2 MIN
D1 SEC
D2 SEC
D1 FR
D2 FR
Q701-708
DRIVER
SYSTEM CONTROL (SE-10P)
002-10 SLOW TRACON
002-9 STILL ADJ
RV001
RV002
SLOW ADJ
S001-009
010,012,013,015,017
FUNCTION CONTROL MATRIX
TO/REEL
Q017,018
COUNTER SELECT
TIMER REC
Q013,015,016
D011-020,024-026
FUNCTION CONTROL LED'S
40,46 48,49 54-57
4,20-24,27-29 51-53
H MON
EXT V SYNC
EXTAL
XTAL
X001 5MHz
FC901
HOURS METER
Q904
HOURS METER SWITCH
904-3
004-3
SYNC INT/EXT
STILL ADJ
005-1
005-3
401-1
401-3
S401
SYNC
INT
EXT
RV401
STILL
(See Page 147)
IF-39 BOARD
(See Page 164)
TR-40 BOARD


004-1
ACK
VIDEO IN/OUT (IF-39)
001-5
A MUTE
AUDIO IN/OUT (IF-39)
IC004
CONTOROL P SWITCH
IC001
SIRCS IN
VTR1/VTR2
ACK
A MUTE
a b c d e f g
S1
S0
SCK
MODE CS
POWER ON
ENABLE
GENLOCK
IC002
POWER ON RESET
RST
Vcc
TP001
TEST
D009,010
POWER ON
DJ
4-BIT MICRO-COMPUTER
H MON
EXT V SYNC
EXTAL
XTAL
X001 5MHz
4-3
a SEG
b SEG
c SEG
d SEG
e SEG
f SEG
g SEG
Q709-715
7-SEGMENT DRIVER
D701 (HOURS)
D702 (MINUTES)
D703 (SECONDS)
D704 (FRAMES)
(TIME CODE CONTER)
D1 HOU
D2 HOU
D1 MIN
D2 MIN
D1 SEC
D2 SEC
D1 FR
D2 FR
Q701-708
DRIVER
(See Page 178)
TC-20 BOARD
40,46 48,49 54-57
S001-009 010,012,013,015,017
FUNCTION CONTROL MATRIX
TO/REEL
Q017,018
COUNTER SELECT
TIMER REC
Q013,015,016 D011-020,024-026
FUNCTION CONTROL LED'S
4,20-24,27-29 51-53
(See Page 177)
FB-169P BOARD (3/3)
EVO-9500P
SYNC INT/EXT
STILL ADJ
005-1
005-3
401-1
401-3
S401
SYNC
INT
EXT
RV401
STILL
(See Page 164)
TR-40 BOARD

3-25. TIMER MICROCOMPUTER (IC001 (CXP5046) on FB-169P board) INTERFACE

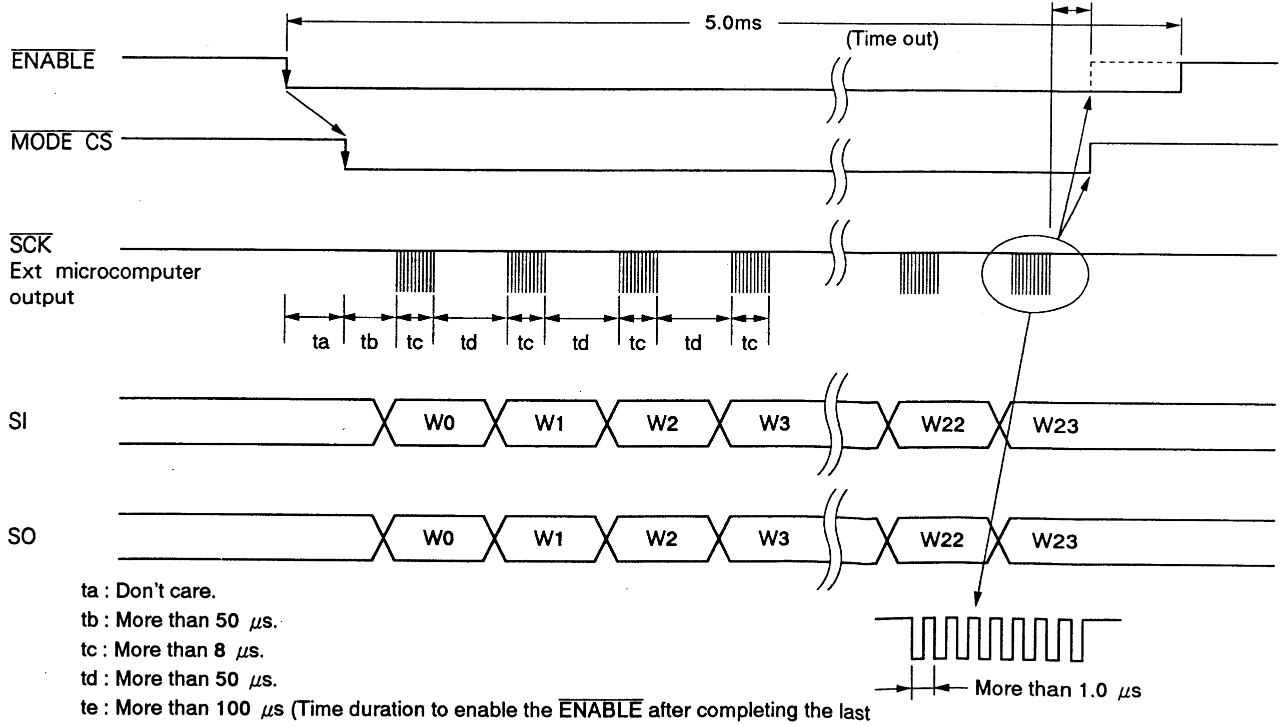
Signal name	I/O	PIN No.	Function
——	O	1	Not used.
——	O	2	
——	O	3	
AU DUB	O	4	DUB LED Control signal. H : LED ON L : LED OFF
g	O	5	Control signal for each segment of 7-segment LED. H : LED ON L : LED OFF 
f	O	6	
e	O	7	
d	O	8	
c	O	9	
b	O	10	
a	O	11	
8	O	12	ON/OFF control signal for each segment of 7-segment LED. H : LED OFF L : LED ON  It works following timing. 
7	O	13	
6	O	14	
5	O	15	
4	O	16	
3	O	17	
2	O	18	
1	O	19	
$\overline{\text{LP LED}}$	O	20	Not used.
$\overline{\text{SP LED}}$	O	21	SP LED control signal. L : LED ON H : LED OFF
$\overline{\text{PCM LED}}$	O	22	PCM LED control signal. L : LED ON H : LED OFF
$\overline{\text{CIN LED}}$	O	23	CASSETTE-IN LED control signal. L : LED ON H : LED OFF
$\overline{\text{PAUSE LED}}$	O	24	PAUSE LED control signal.GND$_0$ L : LED ON H : LED OFF
GND	O	25	GND

Signal name	I/O	PIN No.	Function
Vcc	O	26	UNSW5V.
$\overline{\text{FF LED}}$	O	27	FF LED control signal. L : LED ON H : LED OFF
$\overline{\text{PLAY LED}}$	O	28	PLAY LED control signal. L : LED ON H : LED OFF
$\overline{\text{REW LED}}$	O	29	REW LED control signal. L : LED ON H : LED OFF
		30	5MHz Oscillation.
		31	5MHz Oscillation.
$\overline{\text{RESET}}$	I	32	System reset input terminal.
$\overline{\text{SCK}}$	O	33	Communication line to a mode control microcomputer (IC001/SE-10board) inside the Core-deck. Full-duplex serial data of 24-byte can be transmitted by 5-bit data. (See Fig.3-1)
SO	O	34	
$\overline{\text{ENABLE}}$	I	35	
SI	I	36	
$\overline{\text{MODE CS}}$	O	37	
$\overline{\text{GENLOCK}}$	I	38	Sync control signal of core-deck. When it is "L", phase is locked to V SYNC input from external device, forcibly. Actuality, Pin 61 is "L" level and sync is locked with external device when the mode is playback or ×1 mode.
ACK	I	39	Burst existence signal. This signal is used for detecting the video signal existence. H : Blank L : Video signal exist
TC/$\overline{\text{REEL}}$	I	40	Selection signal to display the time code or reel counter on the 8-digit 7-segment LED. H : Time code L : Reel counter
VTRI/$\overline{\text{II}}$	I	41	Sircs category code selection signal input to pin 59. H : Receive VTR I L : Receive VTR II
$\overline{\text{TEST}}$	I	42	"L" in TEST mode.
$\overline{\text{PRINTER}}$	I	43	"L" in Printer. Not used.
PRGINC	I	44	Control signal to increment a chapter number, when the printer has been used. Not used.
——	——	45	Not used.
$\overline{\text{AUTO REPEAT}}$	I	46	Switching signal to AUTO REPEAT mode. AUTO REPEAT is carried out when the ACK at pin 39 is "L".
$\overline{\text{AUTO PB}}$	I	47	Not used.
$\overline{\text{TIMER PB}}$	I	48	Switching signal for automatic playback when the power is turned ON. Automatic playback is carried out when it is "L".
$\overline{\text{TIMER REC}}$	I	49	Switching signal for automatic recording when the power is turned ON. When it is set to "L", unit is set into the record mode by turning the power ON.
$\overline{\text{J/S LED}}$	O	50	Not used.
$\overline{\text{EJECT LED}}$	O	51	EJECT LED control signal. L : LED ON H : LED OFF

Signal name	I/O	PIN No.	Function
Vcc	O	26	UNSW5V.
FF LED	O	27	FF LED control signal. L : LED ON H : LED OFF
PLAY LED	O	28	PLAY LED control signal. L : LED ON H : LED OFF
REW LED	O	29	REW LED control signal. L : LED ON H : LED OFF
		30	5MHz Oscillation.
		31	5MHz Oscillation.
RESET	I	32	System reset input terminal.
SCK	O	33	Communication line to a mode control microcomputer (IC001/SE-10board) inside the Core-deck. Full-duplex serial data of 24-byte can be transmitted by 5-bit data. (See Fig.3-1)
SO	O	34	
ENABLE	I	35	
SI	I	36	
MODE CS	O	37	
GENLOCK	I	38	Sync control signal of core-deck. When it is "L", phase is locked to V SYNC input from external device, forcibly. Actuality, Pin 61 is "L" level and sync is locked with external device when the mode is playback or ×1 mode.
ACK	I	39	Burst existence signal. This signal is used for detecting the video signal existence. H : Blank L : Video signal exist
TC/REEL	I	40	Selection signal to display the time code or reel counter on the 8-digit 7-segment LED. H : Time code L : Reel counter
VTRI/II	I	41	Sircs category code selection signal input to pin 59. H : Receive VTR I L : Receive VTR II
TEST	I	42	"L" in TEST mode.
PRINTER	I	43	"L" in Printer. Not used.
PRGINC	I	44	Control signal to increment a chapter number, when the printer has been used. Not used.
——	——	45	Not used.
AUTO REPEAT	I	46	Switching signal to AUTO REPEAT mode. AUTO REPEAT is carried out when the ACK at pin 39 is "L".
AUTO PB	I	47	Not used.
TIMER PB	I	48	Switching signal for automatic playback when the power is turned ON. Automatic playback is carried out when it is "L".
TIMER REC	I	49	Switching signal for automatic recording when the power is turned ON. When it is set to "L", unit is set into the record mode by turning the power ON.
J/S LED	O	50	Not used.
EJECT LED	O	51	EJECT LED control signal. L : LED ON H : LED OFF

Signal name	I/O	PIN No.	Function
HB LED	O	52	Hi8 LED control signal. L : LED ON H : LED OFF
REC LED	O	53	REC LED control signal. L : LED ON H : LED OFF
KEY1	I	54	A/D port for KEY Detection. DUB, +1/5, − 1/5
KEY2	I	55	A/D port for KEY Detection. POWER, REW, RESET
KEY3	I	56	A/D port for KEY Detection. EJECT, PLAY, PAUSE
KEY4	I	57	A/D port for KEY Detection. STOP, REC, FF
Vcc		58	UNSW5V$_o$
SIRCS IN	I	59	SIRCS Signal input terminal.
HMON	O	60	Control signal for the hours meter. It goes to "L" during rotating the drum based on the data transmitted from the core-deck.
INT/EXT	I	61	Switching signal for EXT/INT Sync. L : External sync mode
A MUTE	O	62	Audio muting control signal. Mute by "H".
POWER ON	I	63	Power on detection signal. L : Power on
	O	64	Not used.

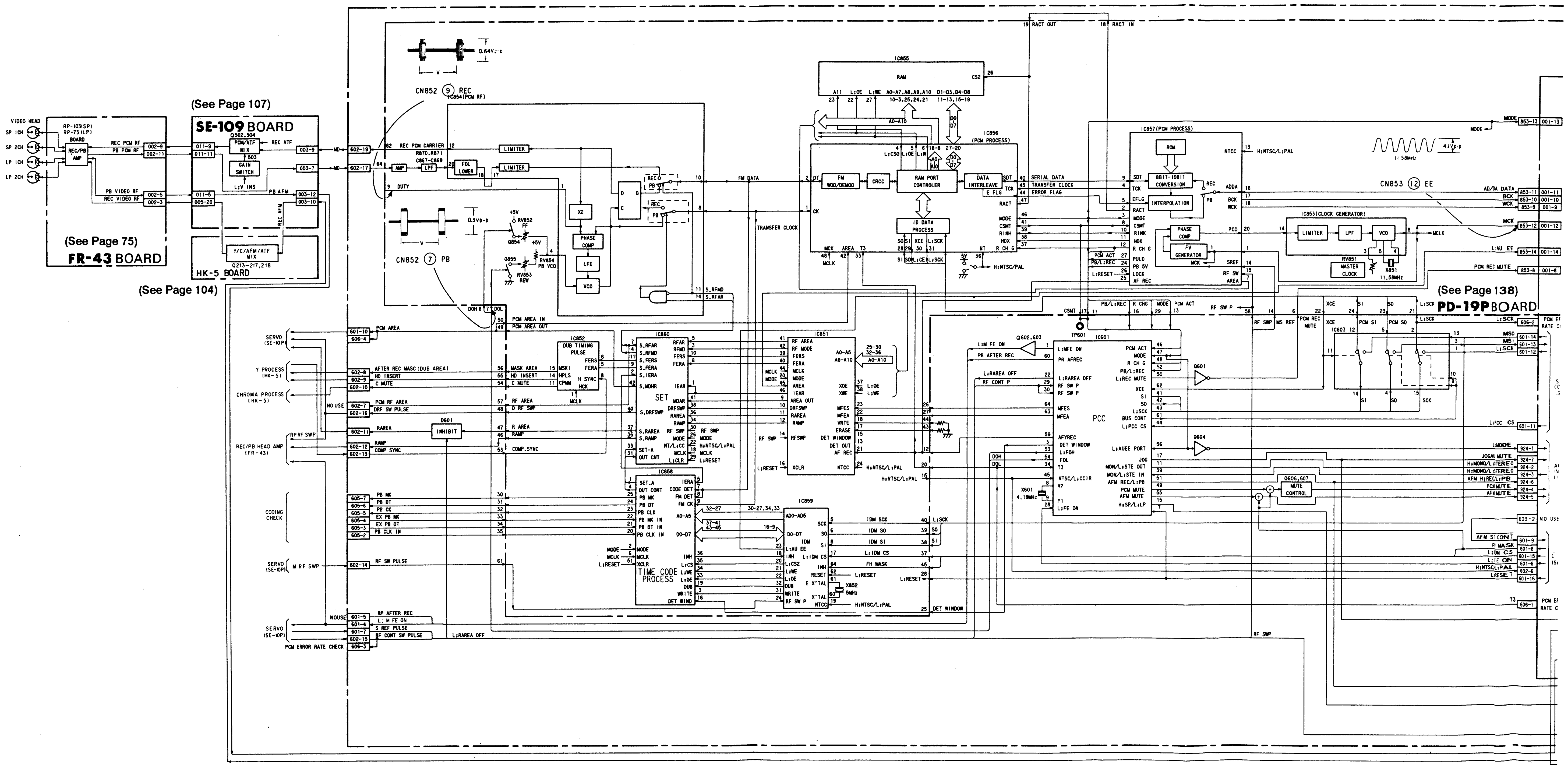
External Bus Timing chart

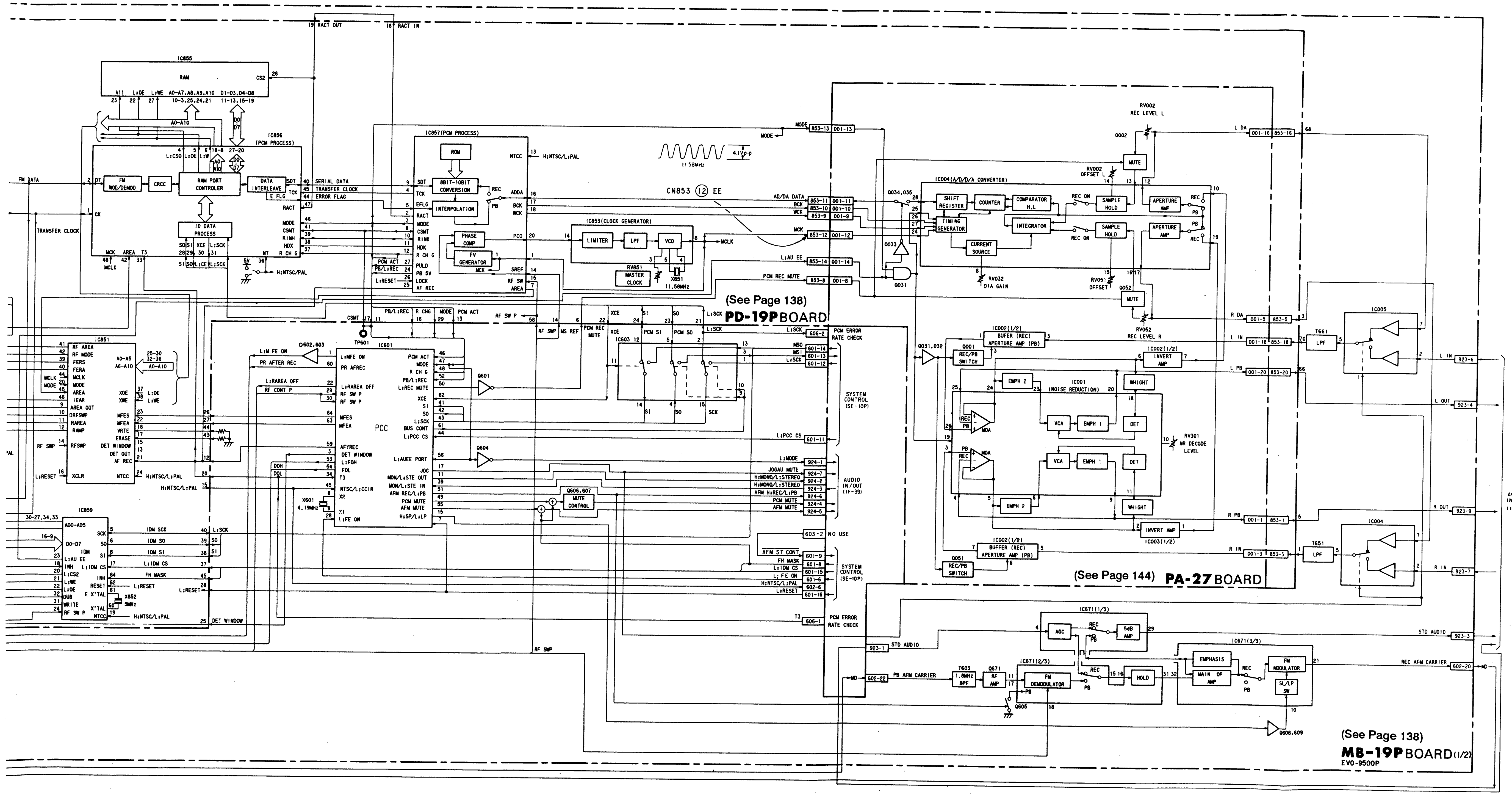


ta : Don't care.
tb : More than 50 µs.
tc : More than 8 µs.
td : More than 50 µs.
te : More than 100 µs (Time duration to enable the ENABLE after completing the last communication.)

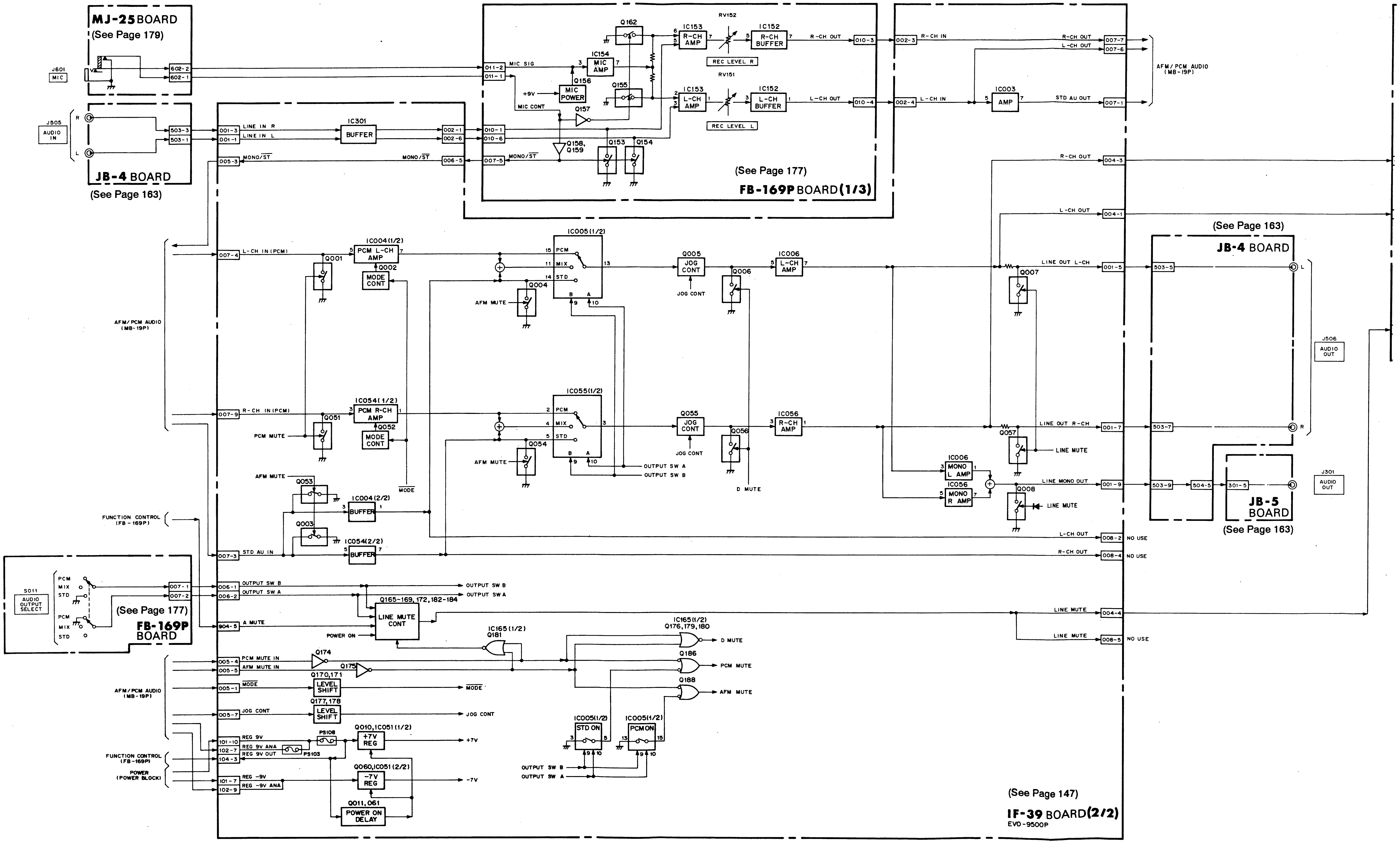
Fig. 3-1

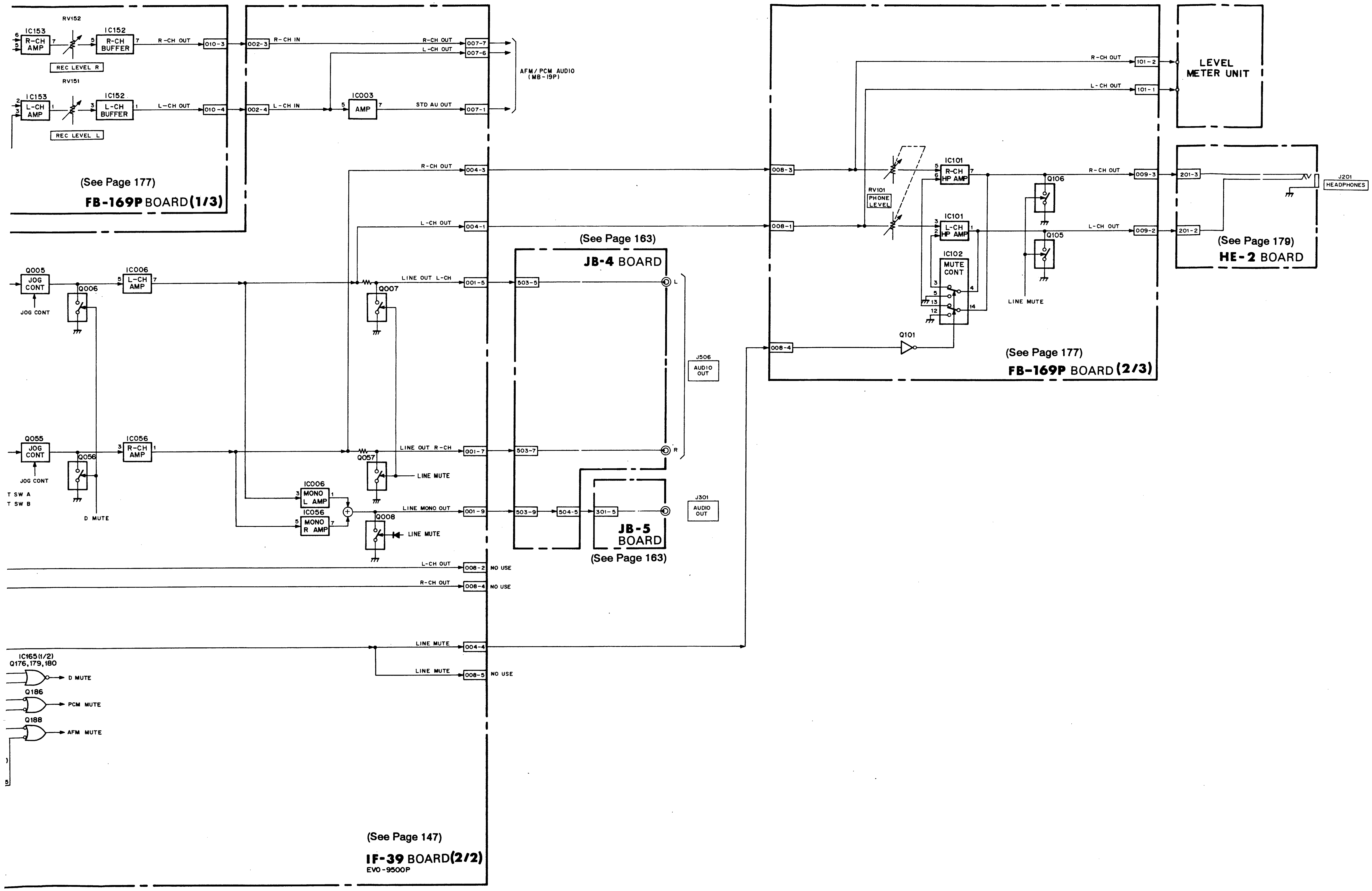
3-26. AFM/PCM AUDIO BLOCK DIAGRAM


(See Page 107)
SE-109 BOARD
(See Page 75)
FR-43 BOARD
HK-5 BOARD
(See Page 104)
(See Page 138)
PD-19P BOARD
VIDEO HEAD
SP 1CH
SP 2CH
LP 1CH
LP 2CH
RP-103(SP)
RP-73(LP)
BOARD
REC/PB AMP
REC PCM RF
PB PCM RF
PB VIDEO RF
REC VIDEO RF
PCM/ATF MIX
GAIN SWITCH
Y/C/AFM/ATF MIX
CN852 ⑨ REC
CN852 ⑦ PB
CN853 ⑫ EE
0.64Vp-p
0.3Vp-p
LIMITER
FOL LOWER
PHASE COMP
LFE
VCO
IC855
RAM
IC856 (PCM PROCESS)
FM MOD/DEMOD
CRCC
RAM PORT CONTROLER
DATA INTERLEAVE
ID DATA PROCESS
IC857 (PCM PROCESS)
ROM
8BIT-10BIT CONVERSION
INTERPOLATION
PHASE COMP
FV GENERATOR
IC853 (CLOCK GENERATOR)
LIMITER
LPF
VCO
RV851 MASTER CLOCK
X851 11.58MHz
RACT OUT
RACT IN
SERIAL DATA
TRANSFER CLOCK
ERROR FLAG
FM DATA
TRANSFER CLOCK
IC852
DUB TIMING PULSE
IC860
SET
IC858
TIME CODE PROCESS
IC851
IC859
IC601
PCC
X601 4.19MHz
X852 5MHz
D601
INHIBIT
Q602,603
Q601
Q604
Q606,607
MUTE CONTROL
TP601
SERVO (SE-109)
Y PROCESS (HK-5)
CHROMA PROCESS (HK-5)
REC/PB HEAD AMP (FR-43)
CODING CHECK
PCM ERROR RATE CHECK
PCM AREA
AFTER REC MASC (DUB AREA)
HD INSERT
C MUTE
PCM RF AREA
DRF SW PULSE
RAREA
RAMP
COMP SYNC
PB MK
PB DT
PB CK
EX PB MK
EX PB DT
PB CLK IN
RF SW PULSE
RP AFTER REC
L: M FE ON
S REF PULSE
RF CONT SW PULSE
L: AREA OFF
DET WINDOW
H: NTSC/L: PAL
MODE
AD/DA DATA
BCK
WCK
MCK
L: AU EE
PCM REC MUTE
L: SCK
MSO
MSI
L: PCC CS
L: MODE
AFM MUTE
PCM MUTE
11.58MHz

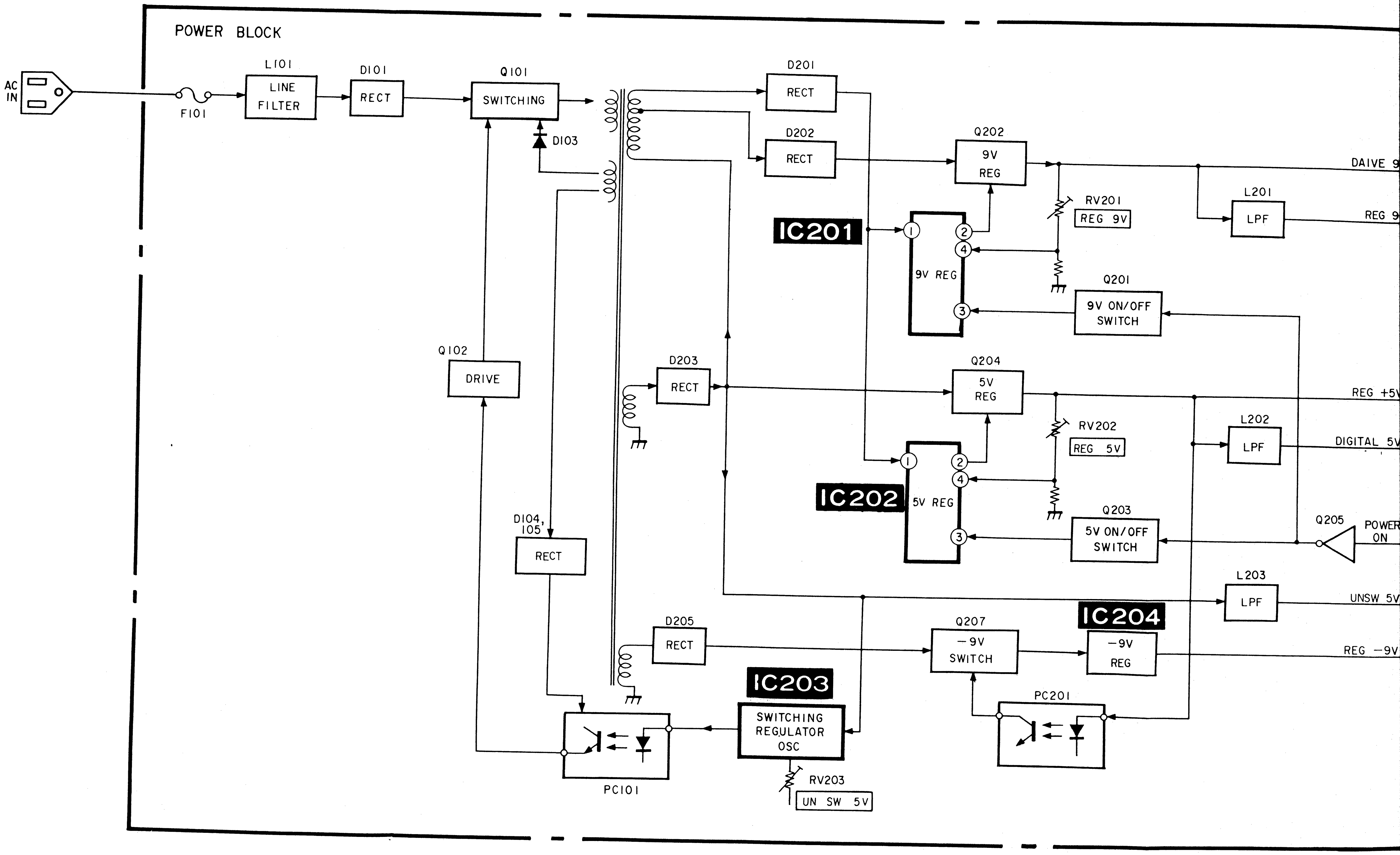

IC855
RAM
IC856 (PCM PROCESS)
FM MOD/DEMOD
CRCC
RAM PORT CONTROLER
DATA INTERLEAVE
ID DATA PROCESS
FM DATA
TRANSFER CLOCK
SERIAL DATA
TRANSFER CLOCK
ERROR FLAG
19 RACT OUT
18 RACT IN
IC857 (PCM PROCESS)
ROM
8BIT-10BIT CONVERSION
INTERPOLATION
PHASE COMP
FV GENERATOR
H:NTSC/L:PAL
IC853 (CLOCK GENERATOR)
LIMITER
LPF
VCO
RV851 MASTER CLOCK
X851 11.58MHz
MCLK
CN853 ⑫ EE
11.58MHz
4.1Vp-p
(See Page 138)
PD-19P BOARD
IC851
IC859
X852 5MHz
IC601
PCC
X601 4.19MHz
TP601
Q602,603
Q601
Q604
Q606,607 MUTE CONTROL
IC603
PCM ERROR RATE CHECK
SYSTEM CONTROL (SE-10P)
AUDIO IN/OUT (IF-39)
NO USE
IC004 (A/D/D/A CONVERTER)
SHIFT REGISTER
COUNTER
COMPARATOR H,L
TIMING GENERATOR
INTEGRATOR
CURRENT SOURCE
SAMPLE HOLD
APERTURE AMP
MUTE
RV002 REC LEVEL L
RV002 OFFSET L
RV032 D/A GAIN
RV051 OFFSET
RV052 REC LEVEL R
Q034,035
Q033
Q031
Q002
Q052
IC002(1/2) BUFER (REC) APERTURE AMP (PB)
IC002(1/2) INVERT AMP
IC001 (NOISE REDUCTION)
EMPH 1
EMPH 2
VCA
DET
WHIGHT
MDA
RV301 NR DECODE LEVEL
INVERT AMP
IC003(1/2)
Q001 REC/PB SWITCH
Q051 REC/PB SWITCH
Q031,032
(See Page 144)
PA-27 BOARD
IC005
IC004
T661 LPF
T651 LPF
L IN
L OUT
R OUT
R IN
AUDIO IN/OUT (IF-39)
IC671(1/3)
AGC
5dB AMP
IC671(2/3)
FM DEMODULATOR
HOLD
IC671(3/3)
EMPHASIS
MAIN OP AMP
FM MODULATOR
SL/LP SW
T603 1.5MHz BPF
Q671 RF AMP
Q605
Q608,609
STD AUDIO
PB AFM CARRIER
REC AFM CARRIER
RF SWP
(See Page 138)
MB-19P BOARD(1/2)
EVO-9500P

3-27. AUDIO IN/OUT BLOCK DIAGRAM

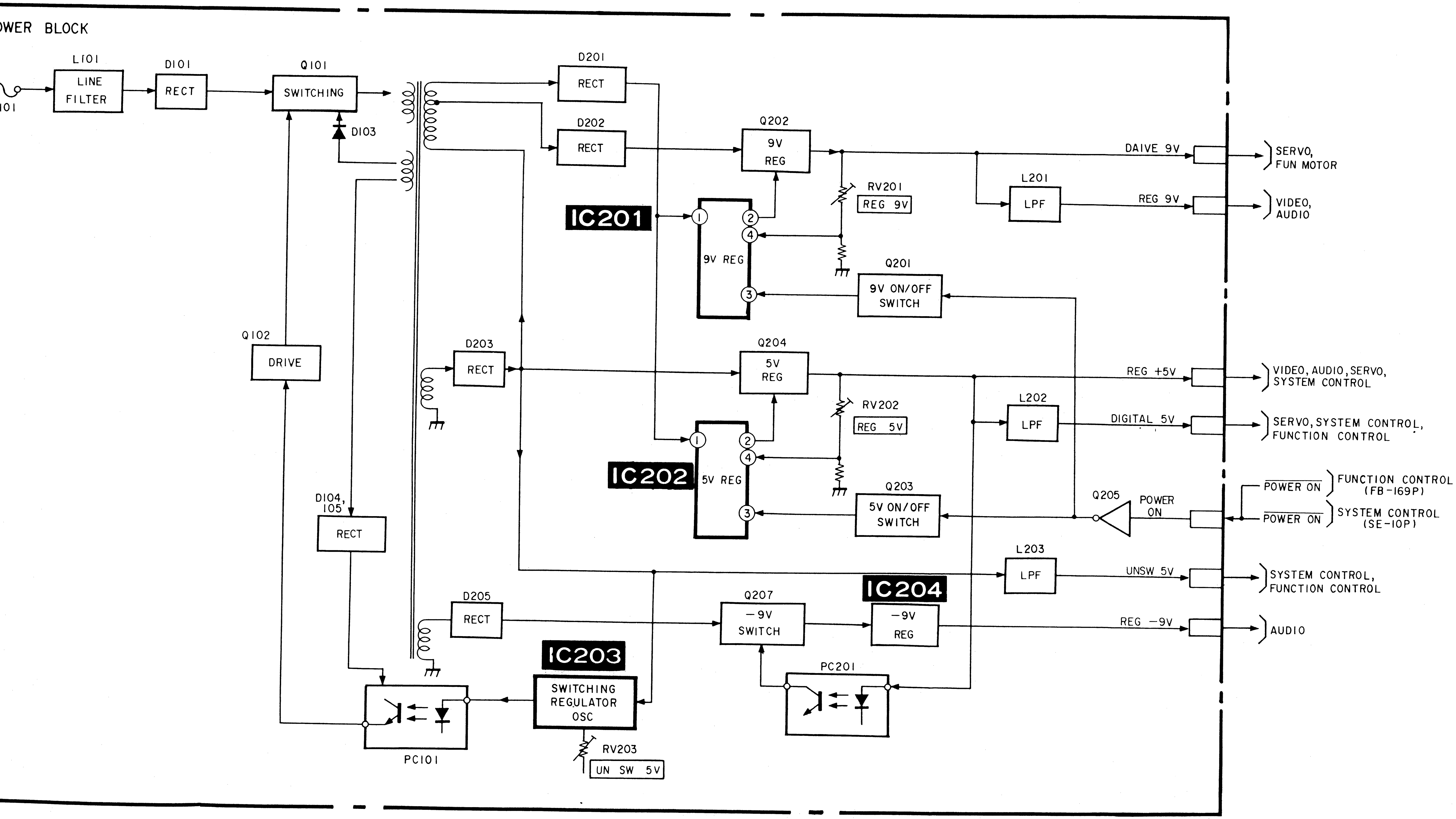

MJ-25 BOARD
(See Page 179)
J601 MIC
J505 AUDIO IN
JB-4 BOARD
(See Page 163)
LINE IN R
LINE IN L
IC301 BUFFER
MONO/ST
MIC SIG
+9V
MIC CONT
Q162
IC154 MIC AMP
Q156
MIC POWER
Q155
Q157
Q158, Q159
Q153
Q154
IC153 R-CH AMP
IC153 L-CH AMP
RV152
RV151
REC LEVEL R
REC LEVEL L
IC152 R-CH BUFFER
IC152 L-CH BUFFER
R-CH OUT
L-CH OUT
(See Page 177)
FB-169P BOARD(1/3)
R-CH IN
L-CH IN
IC003 AMP
STD AU OUT
AFM/PCM AUDIO (MB-19P)
L-CH IN (PCM)
R-CH IN (PCM)
IC004(1/2) PCM L-CH AMP
IC054(1/2) PCM R-CH AMP
Q001
Q002
MODE CONT
Q051
Q052
PCM MUTE
IC005(1/2)
IC055(1/2)
PCM
MIX
STD
AFM MUTE
Q004
Q054
Q005 JOG CONT
Q055 JOG CONT
Q006
Q056
IC006 L-CH AMP
IC056 R-CH AMP
D MUTE
OUTPUT SW A
OUTPUT SW B
AFM MUTE
Q053
Q003
IC004(2/2) BUFFER
IC054(2/2) BUFFER
MODE
STD AU IN
FUNCTION CONTROL (FB-169P)
IC006 MONO L AMP
IC056 MONO R AMP
LINE OUT L-CH
LINE OUT R-CH
LINE MONO OUT
Q007
Q057
Q008
LINE MUTE
NO USE
(See Page 163)
JB-4 BOARD
J506 AUDIO OUT
J301 AUDIO OUT
JB-5 BOARD
(See Page 163)
S011 AUDIO OUTPUT SELECT
(See Page 177)
FB-169P BOARD
A MUTE
POWER ON
Q165-169, 172, 182-184
LINE MUTE CONT
IC165(1/2) Q181
IC165(1/2) Q176, 179, 180
Q186
Q188
Q174
Q175
PCM MUTE IN
AFM MUTE IN
Q170,171 LEVEL SHIFT
Q177,178 LEVEL SHIFT
JOG CONT
REG 9V
REG 9V ANA
REG 9V OUT
PS108
PS103
Q010, IC051(1/2) +7V REG
Q060, IC051(2/2) -7V REG
Q011, 061 POWER ON DELAY
+7V
-7V
REG -9V
REG -9V ANA
POWER (POWER BLOCK)
IC005(1/2) STD ON
IC005(1/2) PCM ON
(See Page 147)
IF-39 BOARD(2/2)
EVO-9500P


RV152
IC153
R-CH AMP
IC152
R-CH BUFFER
R-CH OUT
010-3
REC LEVEL R
RV151
IC153
L-CH AMP
IC152
L-CH BUFFER
L-CH OUT
010-4
REC LEVEL L
(See Page 177)
FB-169P BOARD(1/3)
002-3
R-CH IN
R-CH OUT
L-CH OUT
007-7
007-6
AFM/PCM AUDIO (MB-19P)
002-4
L-CH IN
IC003
AMP
STD AU OUT
007-1
R-CH OUT
004-3
L-CH OUT
004-1
Q005
JOG CONT
JOG CONT
Q006
IC006
L-CH AMP
LINE OUT L-CH
Q007
001-5
Q055
JOG CONT
JOG CONT
Q056
IC056
R-CH AMP
LINE OUT R-CH
Q057
001-7
LINE MUTE
T SW A
T SW B
D MUTE
IC006
MONO L AMP
IC056
MONO R AMP
LINE MONO OUT
Q008
001-9
LINE MUTE
L-CH OUT
008-2
NO USE
R-CH OUT
008-4
NO USE
LINE MUTE
004-4
LINE MUTE
008-5
NO USE
IC165(1/2)
Q176,179,180
D MUTE
Q186
PCM MUTE
Q188
AFM MUTE
(See Page 147)
IF-39 BOARD(2/2)
EVO-9500P
(See Page 163)
JB-4 BOARD
503-5
L
503-7
R
J506
AUDIO OUT
503-9
504-5
301-5
J301
AUDIO OUT
JB-5 BOARD
(See Page 163)
008-3
008-1
008-4
R-CH OUT
101-2
L-CH OUT
101-1
LEVEL METER UNIT
RV101
PHONE LEVEL
IC101
R-CH HP AMP
IC101
L-CH HP AMP
IC102
MUTE CONT
Q106
Q105
R-CH OUT
009-3
L-CH OUT
009-2
LINE MUTE
Q101
(See Page 177)
FB-169P BOARD(2/3)
201-3
201-2
J201
HEADPHONES
(See Page 179)
HE-2 BOARD

3-28. POWER BLOCK DIAGRAM


POWER BLOCK
AC IN
F101
L101
LINE FILTER
D101
RECT
Q101
SWITCHING
D103
D201
RECT
D202
RECT
Q202
9V REG
DAIVE 9
RV201
REG 9V
L201
LPF
REG 9
IC201
9V REG
Q201
9V ON/OFF SWITCH
Q102
DRIVE
D203
RECT
Q204
5V REG
REG +5V
RV202
REG 5V
L202
LPF
DIGITAL 5V
IC202
5V REG
Q203
5V ON/OFF SWITCH
Q205
POWER ON
D104, 105
RECT
L203
LPF
UNSW 5V
D205
RECT
Q207
−9V SWITCH
IC204
−9V REG
REG −9V
IC203
SWITCHING REGULATOR OSC
PC201
PC101
RV203
UN SW 5V

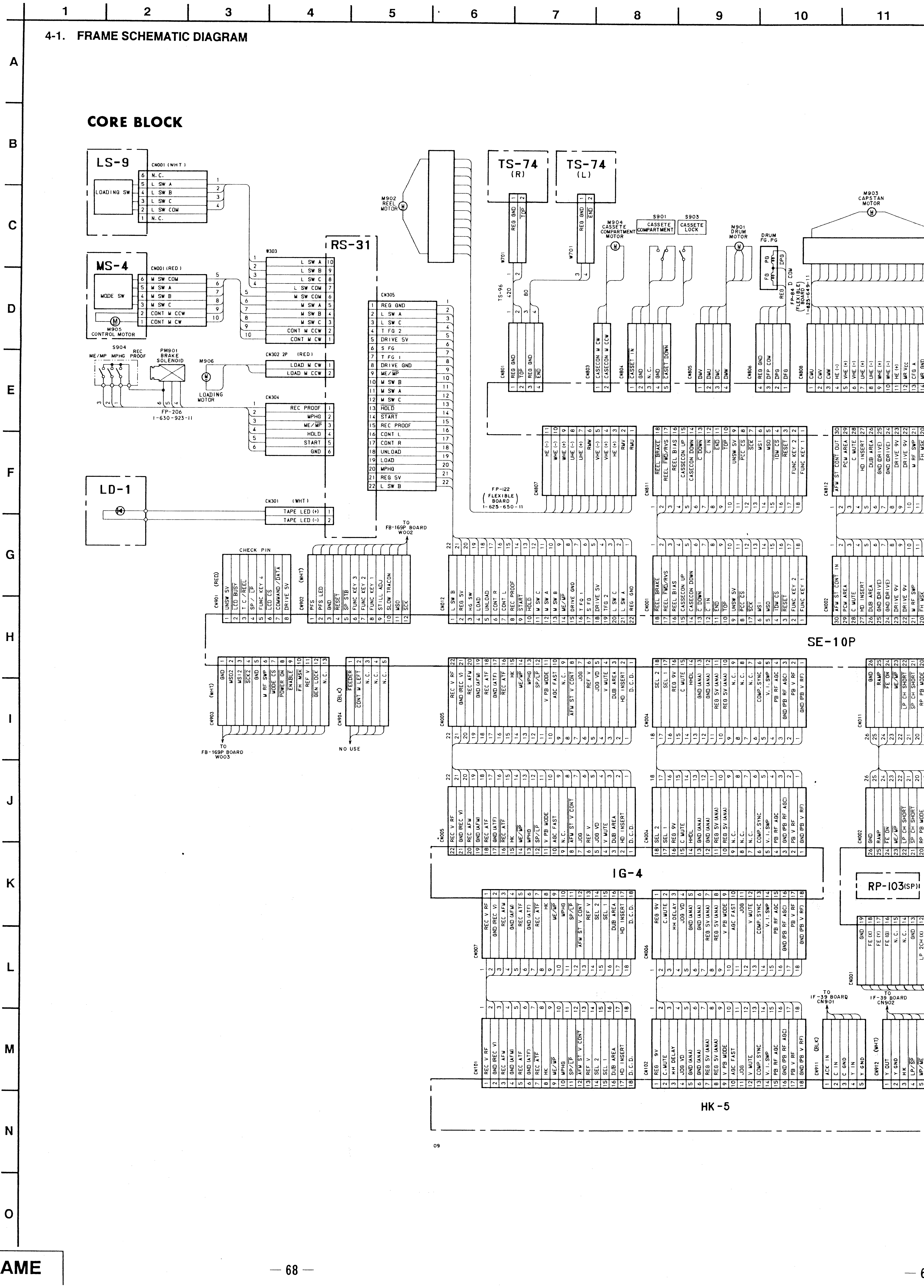
RAM



WER BLOCK
IOI
L101
LINE FILTER
D101
RECT
Q101
SWITCHING
D103
Q102
DRIVE
D104, 105
RECT
PC101
D201
RECT
D202
RECT
D203
RECT
D205
RECT
IC203
SWITCHING REGULATOR OSC
RV203
UN SW 5V
Q202
9V REG
IC201
① ② ④ ③
9V REG
RV201
REG 9V
Q201
9V ON/OFF SWITCH
Q204
5V REG
IC202
5V REG
RV202
REG 5V
Q203
5V ON/OFF SWITCH
Q207
−9V SWITCH
IC204
−9V REG
PC201
L201
LPF
L202
LPF
L203
LPF
Q205
POWER ON
DAIVE 9V
REG 9V
REG +5V
DIGITAL 5V
UNSW 5V
REG −9V
SERVO, FUN MOTOR
VIDEO, AUDIO
VIDEO, AUDIO, SERVO, SYSTEM CONTROL
SERVO, SYSTEM CONTROL, FUNCTION CONTROL
POWER ON
FUNCTION CONTROL (FB-169P)
POWER ON
SYSTEM CONTROL (SE-10P)
SYSTEM CONTROL, FUNCTION CONTROL
AUDIO

SECTION 4
PRINTED WIRING AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM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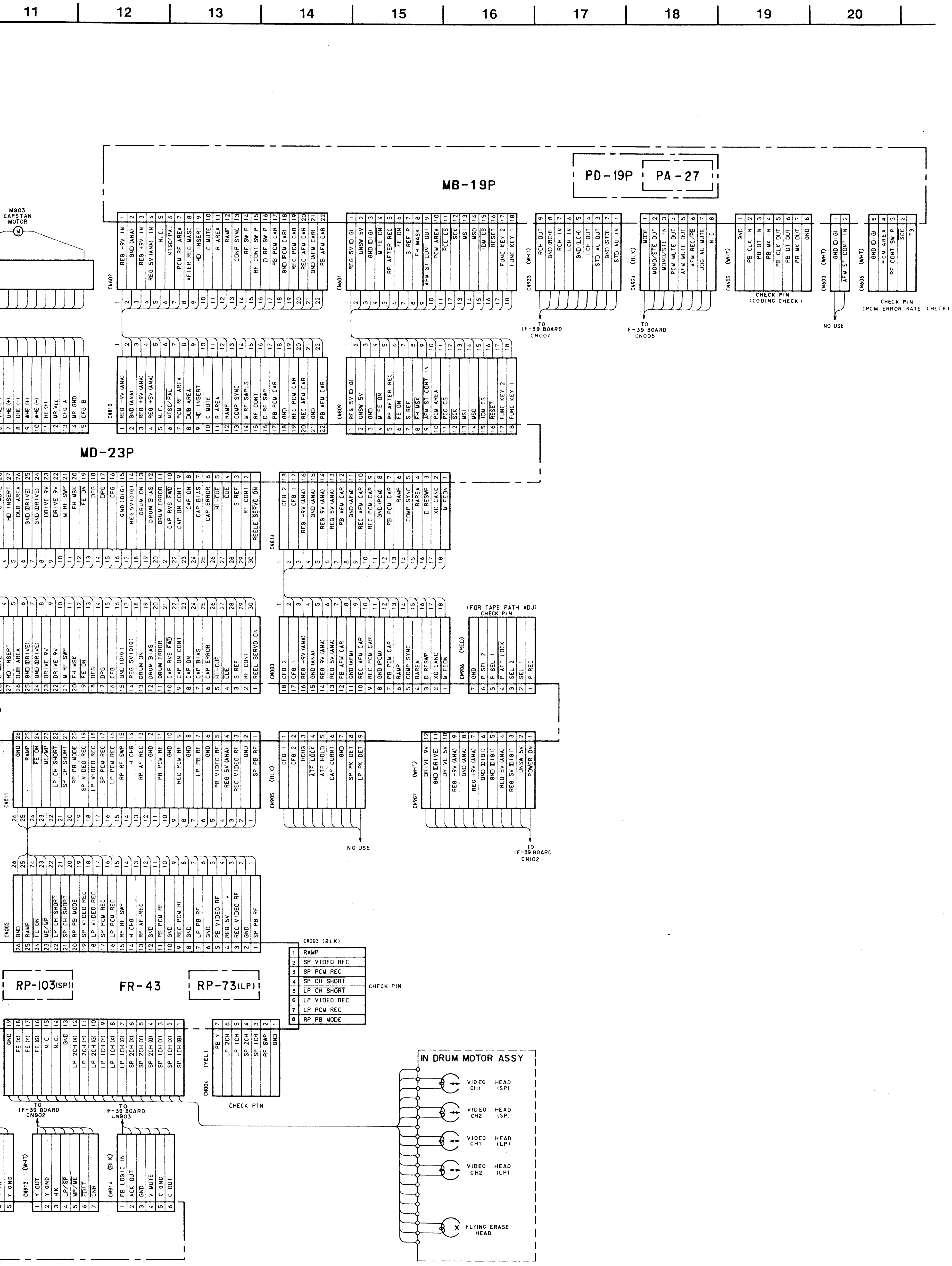
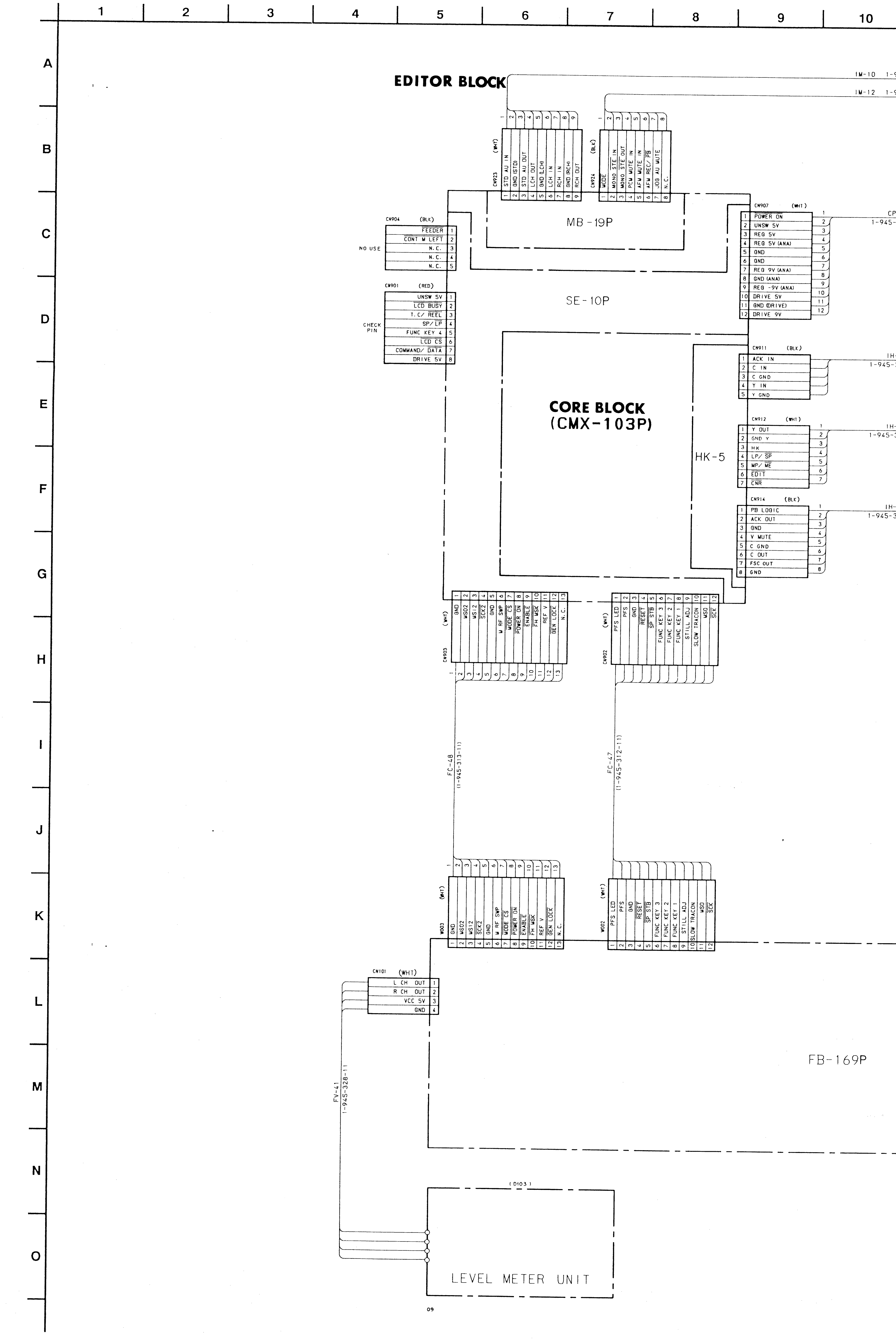
I
J
K
L
M
N
O
CORE BLOCK
LS-9
LOADING SW
MS-4
MODE SW
M905 CONTROL MOTOR
S904
ME/MP
MPHG
REC PROOF
PM901 BRAKE SOLENOID
M906
LOADING MOTOR
FP-206 1-630-923-11
LD-1
RS-31
M902 REEL MOTOR
TS-74 (R)
TS-74 (L)
M904 CASSETE COMPARTMENT MOTOR
S901 CASSETE COMPARTMENT
S903 CASSETE LOCK
M901 DRUM MOTOR
DRUM FG.PG
M903 CAPSTAN MOTOR
FP-84 (FLEXIBLE BOARD) 1-625-649-11
FP-122 (FLEXIBLE BOARD) 1-625-650-11
TO FB-169P BOARD W002
TO FB-169P BOARD W003
CHECK PIN
NO USE
SE-10P
IG-4
RP-103(SP)
TO IF-39 BOARD CN901
TO IF-39 BOARD CN902
HK-5


11
12
13
14
15
16
17
18
19
20
MB-19P
PD-19P
PA-27
M903 CAPSTAN MOTOR
CN602
CN601
CN923 (WHT)
CN924 (BLK)
CN605 (WHT)
CN603 (WHT)
CN606 (WHT)
CHECK PIN (CODING CHECK)
CHECK PIN (PCM ERROR RATE CHECK)
TO IF-39 BOARD CN007
TO IF-39 BOARD CN005
NO USE
CN810
CN809
MD-23P
CN814
CN003
CN906 (RED)
(FOR TAPE PATH ADJ) CHECK PIN
CN011
CN905 (BLK)
CN907 (WHT)
NO USE
TO IF-39 BOARD CN102
CN002
CN003 (BLK)
RAMP
SP VIDEO REC
SP PCM REC
SP CH SHORT
LP CH SHORT
LP VIDEO REC
LP PCM REC
RP PB MODE
CHECK PIN
RP-103(SP)
FR-43
RP-73(LP)
CN004 (YEL)
CHECK PIN
TO IF-39 BOARD CN902
TO IF-39 BOARD CN903
CN912 (WHT)
CN914 (BLK)
IN DRUM MOTOR ASSY
VIDEO HEAD CH1 (SP)
VIDEO HEAD CH2 (SP)
VIDEO HEAD CH1 (LP)
VIDEO HEAD CH2 (LP)
FLYING ERASE HEAD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10
A
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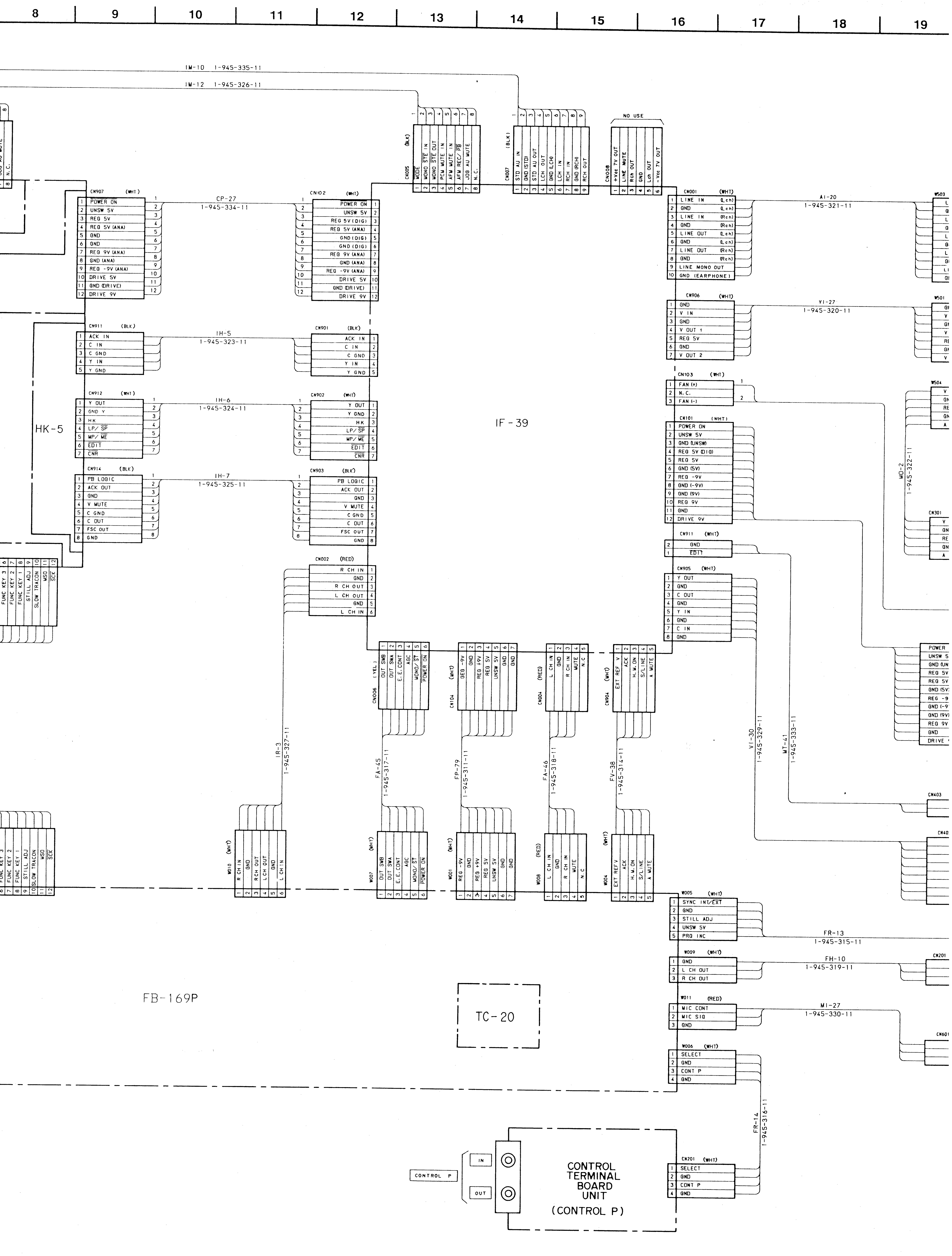
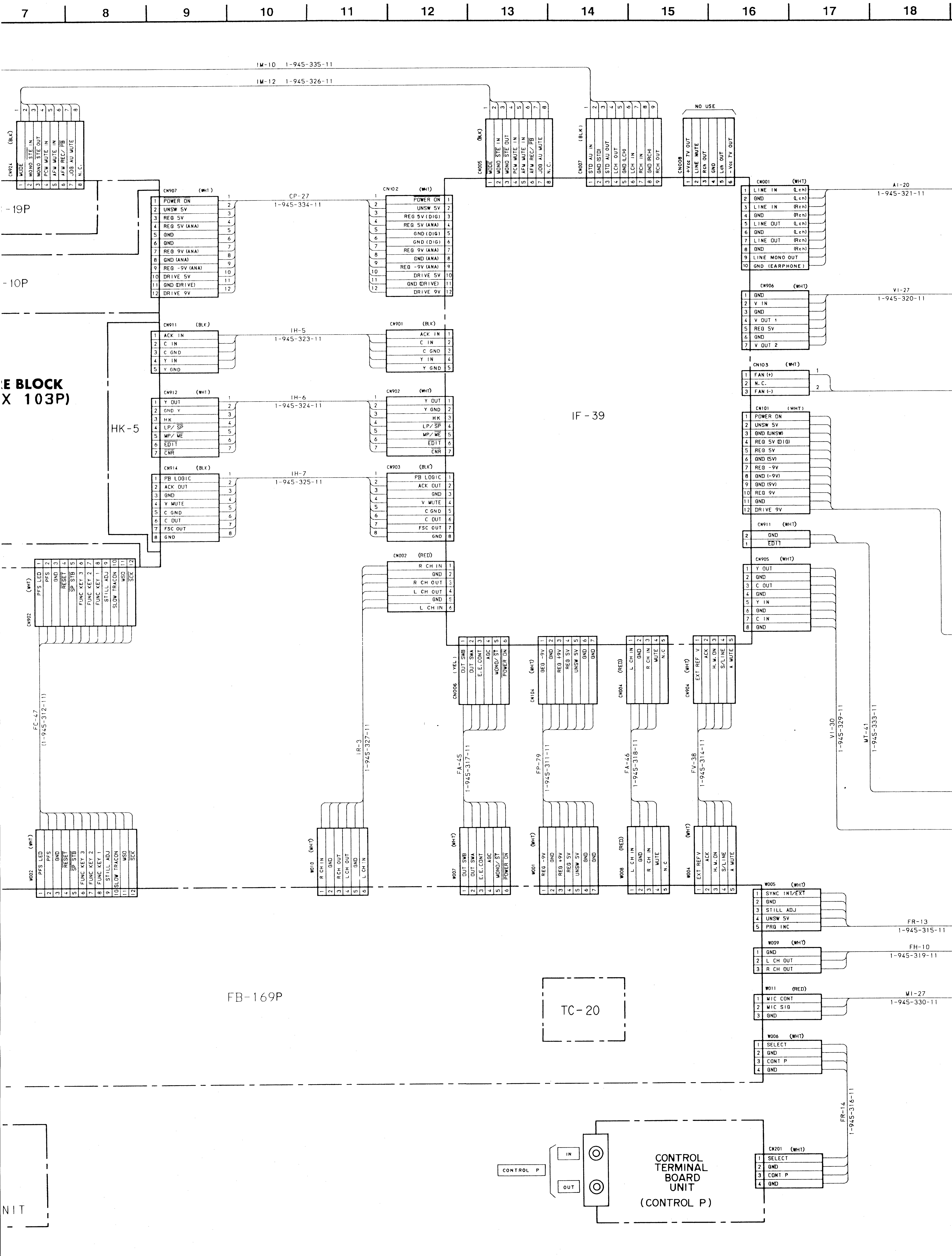
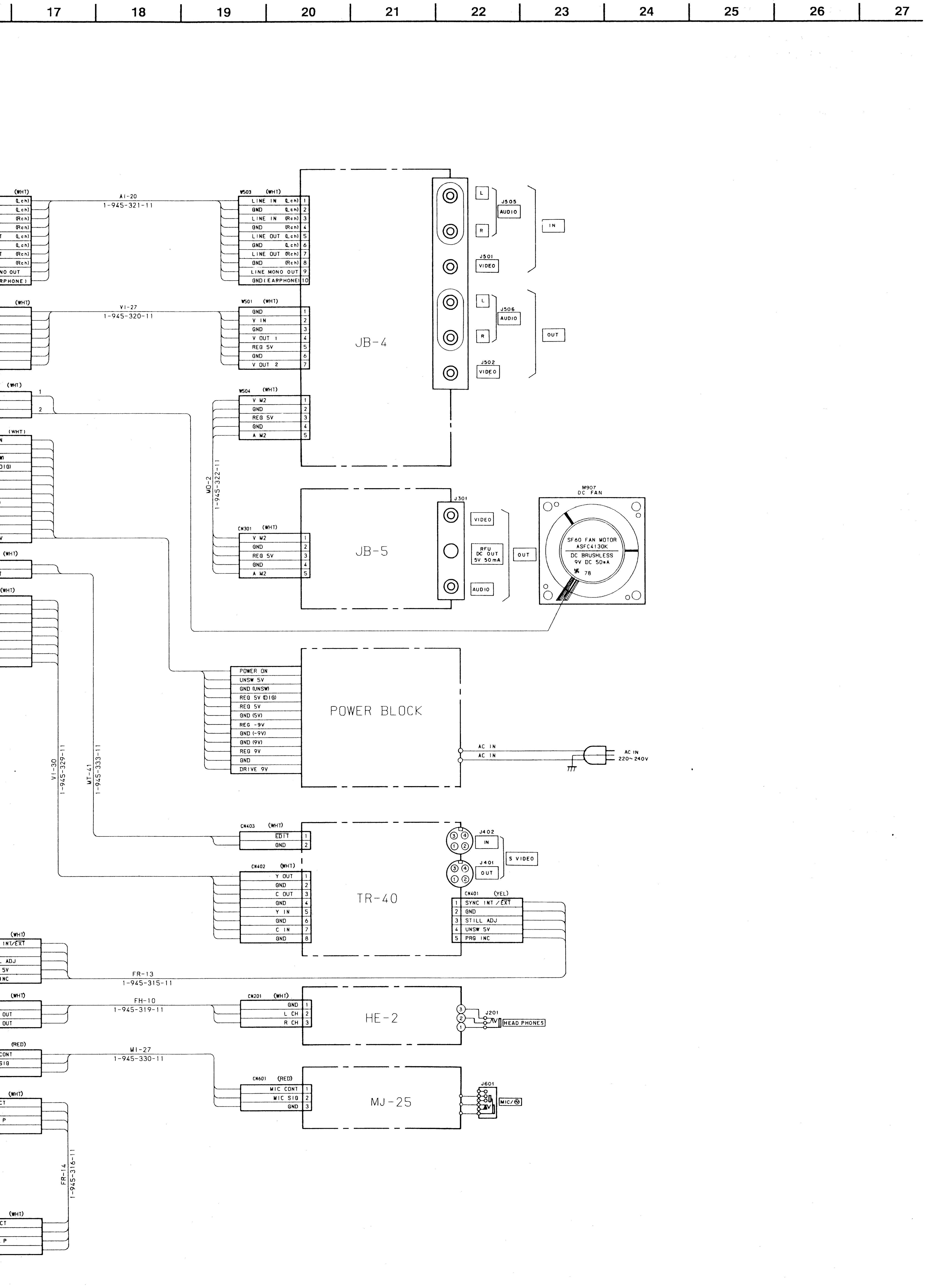
C
D
E
F
G
H
I
J
K
L
M
N
O
EDITOR BLOCK
IM-10 1-9
IM-12 1-9
CN923 (WHT)
1 STD AU IN
2 GND (STD)
3 STD AU OUT
4 LCH OUT
5 GND (LCH)
6 LCH IN
7 RCH IN
8 GND (RCH)
9 RCH OUT
CN924 (BLK)
1 MODE
2 MONO STE IN
3 MONO STE OUT
4 PCM MUTE IN
5 AFM MUTE IN
6 AFM REC/ PB
7 JOG AU MUTE
8 N.C.
MB-19P
CN907 (WHT)
1 POWER ON
2 UNSW 5V
3 REG 5V
4 REG 5V (ANA)
5 GND
6 GND
7 REG 9V (ANA)
8 GND (ANA)
9 REG -9V (ANA)
10 DRIVE 5V
11 GND (DRIVE)
12 DRIVE 9V
CP
1-945-
CN904 (BLK)
NO USE
FEEDER 1
CONT M LEFT 2
N.C. 3
N.C. 4
N.C. 5
SE-10P
CN901 (RED)
CHECK PIN
UNSW 5V 1
LCD BUSY 2
T.C/ REEL 3
SP/ LP 4
FUNC KEY 4 5
LCD CS 6
COMMAND/ DATA 7
DRIVE 5V 8
CN911 (BLK)
1 ACK IN
2 C IN
3 C GND
4 Y IN
5 Y GND
IH-
1-945-
CORE BLOCK
(CMX-103P)
CN912 (WHT)
1 Y OUT
2 GND Y
3 HK
4 LP/ SP
5 MP/ ME
6 EDIT
7 CNR
IH-
1-945-
HK-5
CN914 (BLK)
1 PB LOGIC
2 ACK OUT
3 GND
4 V MUTE
5 C GND
6 C OUT
7 FSC OUT
8 GND
IH-
1-945-
CN903 (WHT)
1 GND
2 MS02
3 MS12
4 SCK2
5 GND
6 M RF SWP
7 MODE CS
8 POWER ON
9 ENABLE
10 FH MSK
11 REF V
12 GEN LOCK
13 N.C.
CN902 (WHT)
1 PFS LED
2 PFS
3 GND
4 RESET
5 SP STB
6 FUNC KEY 3
7 FUNC KEY 2
8 FUNC KEY 1
9 STILL ADJ
10 SLOW TRACON
11 MSO
12 SCK
FC-48
(1-945-313-11)
FC-47
(1-945-312-11)
W003 (WHT)
1 GND
2 MS02
3 MS12
4 SCK2
5 GND
6 M RF SWP
7 MODE CS
8 POWER ON
9 ENABLE
10 FH MSK
11 REF V
12 GEN LOCK
13 N.C.
W002 (WHT)
1 PFS LED
2 PFS
3 GND
4 RESET
5 SP STB
6 FUNC KEY 3
7 FUNC KEY 2
8 FUNC KEY 1
9 STILL ADJ
10 SLOW TRACON
11 MSO
12 SCK
CN101 (WHT)
L CH OUT 1
R CH OUT 2
VCC 5V 3
GND 4
FB-169P
FV-41
1-945-328-11
(D103)
LEVEL METER UNIT
09



8 9 10 11 12 13 14 15 16 17 18 19
IM-10 1-945-335-11
IM-12 1-945-326-11
HK-5
IF-39
FB-169P
TC-20
CONTROL TERMINAL BOARD UNIT (CONTROL P)
CONTROL P
IN
OUT
NO USE
CN907 (WHT)
POWER ON
UNSW 5V
REG 5V
REG 5V (ANA)
GND
REG 9V (ANA)
GND (ANA)
REG -9V (ANA)
DRIVE 5V
GND (DRIVE)
DRIVE 9V
CP-27 1-945-334-11
CN102 (WHT)
REG 5V (DIG)
GND (DIG)
CN911 (BLK)
ACK IN
C IN
C GND
Y IN
Y GND
IH-5 1-945-323-11
CN901 (BLK)
CN912 (WHT)
Y OUT
GND Y
HK
LP/SP
MP/ME
EDIT
CNR
IH-6 1-945-324-11
CN902 (WHT)
CN914 (BLK)
PB LOGIC
ACK OUT
V MUTE
C OUT
FSC OUT
IH-7 1-945-325-11
CN903 (BLK)
CN002 (RED)
R CH IN
R CH OUT
L CH OUT
L CH IN
CN005 (BLK)
MODE
MONO STE IN
MONO STE OUT
PCM MUTE IN
AFM MUTE IN
AFM REC/PB
JOG AU MUTE
N.C.
CN007 (BLK)
STD AU IN
GND (STD)
STD AU OUT
LCH OUT
GND (LCH)
LCH IN
RCH IN
GND (RCH)
RCH OUT
CN008
+Vcc 7V OUT
LINE MUTE
Rch OUT
Lch OUT
-Vcc 7V OUT
CN001 (WHT)
LINE IN (Lch)
LINE IN (Rch)
LINE OUT (Lch)
LINE OUT (Rch)
LINE MONO OUT
GND (EARPHONE)
AI-20 1-945-321-11
CN906 (WHT)
V IN
V OUT 1
V OUT 2
VI-27 1-945-320-11
CN103 (WHT)
FAN (+)
FAN (-)
CN101 (WHT)
GND (UNSW)
GND (5V)
REG -9V
GND (-9V)
GND (9V)
REG 9V
DRIVE 9V
MO-2 1-945-322-11
CN911 (WHT)
CN905 (WHT)
CN006 (YEL)
OUT SWB
OUT SWA
E.E. CONT
AGC
MONO/ST
CN104 (WHT)
REG +9V
UNSW 5V
CN004 (RED)
MUTE
CN904 (WHT)
EXT REF V
H.W. ON
S/LINE
A MUTE
IR-3 1-945-327-11
FA-45 1-945-317-11
FP-79 1-945-311-11
FA-46 1-945-318-11
FV-38 1-945-314-11
VI-30 1-945-329-11
MT-41 1-945-333-11
W010 (WHT)
W007 (WHT)
W001 (WHT)
W008 (RED)
W004 (WHT)
FUNC KEY 3
FUNC KEY 2
FUNC KEY 1
STILL ADJ
SLOW TRACON
MSO
SCK
W005 (WHT)
SYNC INT/EXT
PRG INC
FR-13 1-945-315-11
W009 (WHT)
FH-10 1-945-319-11
W011 (RED)
MIC CONT
MIC SIG
MI-27 1-945-330-11
W006 (WHT)
SELECT
CONT P
FR-14 1-945-316-11
CN201 (WHT)
W503
W501
W504
CN301
CN403
CN401
CN201
CN601



7 8 9 10 11 12 13 14 15 16 17 18
IM-10 1-945-335-11
IM-12 1-945-326-11
CN924 (BLK)
MODE
MONO STE IN
MONO STE OUT
PCM MUTE IN
AFM MUTE IN
AFM REC/PB
JOG AU MUTE
N.C.
-19P
-10P
E BLOCK
X 103P)
HK-5
CN907 (WHT)
POWER ON
UNSW 5V
REG 5V
REG 5V (ANA)
GND
GND
REG 9V (ANA)
GND (ANA)
REG -9V (ANA)
DRIVE 5V
GND (DRIVE)
DRIVE 9V
CP-27
1-945-334-11
CN102 (WHT)
POWER ON
UNSW 5V
REG 5V (DIG)
REG 5V (ANA)
GND (DIG)
GND (DIG)
REG 9V (ANA)
GND (ANA)
REG -9V (ANA)
DRIVE 5V
GND (DRIVE)
DRIVE 9V
CN911 (BLK)
ACK IN
C IN
C GND
Y IN
Y GND
IH-5
1-945-323-11
CN901 (BLK)
ACK IN
C IN
C GND
Y IN
Y GND
CN912 (WHT)
Y OUT
GND Y
HK
LP/SP
MP/ME
EDIT
CNR
IH-6
1-945-324-11
CN902 (WHT)
Y OUT
Y GND
HK
LP/SP
MP/ME
EDIT
CNR
CN914 (BLK)
PB LOGIC
ACK OUT
GND
V MUTE
C GND
C OUT
FSC OUT
GND
IH-7
1-945-325-11
CN903 (BLK)
PB LOGIC
ACK OUT
GND
V MUTE
C GND
C OUT
FSC OUT
GND
CN002 (RED)
R CH IN
GND
R CH OUT
L CH OUT
GND
L CH IN
CN005 (BLK)
MODE
MONO STE IN
MONO STE OUT
PCM MUTE IN
AFM MUTE IN
AFM REC/PB
JOG AU MUTE
N.C.
CN007 (BLK)
STD AU IN
GND (STD)
STD AU OUT
LCH OUT
GND (LCH)
LCH IN
RCH IN
GND (RCH)
RCH OUT
NO USE
CN008
+Vcc 7V OUT
LINE MUTE
Rch OUT
GND
Lch OUT
-Vcc 7V OUT
IF-39
CN001 (WHT)
LINE IN (Lch)
GND (Lch)
LINE IN (Rch)
GND (Rch)
LINE OUT (Lch)
GND (Lch)
LINE OUT (Rch)
GND (Rch)
LINE MONO OUT
GND (EARPHONE)
AI-20
1-945-321-11
CN906 (WHT)
GND
V IN
GND
V OUT 1
REG 5V
GND
V OUT 2
VI-27
1-945-320-11
CN103 (WHT)
FAN (+)
N.C.
FAN (-)
CN101 (WHT)
POWER ON
UNSW 5V
GND (UNSW)
REG 5V (DIG)
REG 5V
GND (5V)
REG -9V
GND (-9V)
GND (9V)
REG 9V
GND
DRIVE 9V
CN911 (WHT)
GND
EDIT
CN905 (WHT)
Y OUT
GND
C OUT
GND
Y IN
GND
C IN
GND
CN902 (WHT)
PFS LED
PFS
GND
RESET
SP STB
FUNC KEY 3
FUNC KEY 2
FUNC KEY 1
STILL ADJ
SLOW TRACON
WSD
SCK
FC-47
(1-945-312-11)
CN006 (YEL)
OUT SWB
OUT SWA
E.E.CONT
AGC
MONO/ST
POWER ON
CN104 (WHT)
REG -9V
GND
REG +9V
REG 5V
UNSW 5V
GND
GND
CN004 (RED)
L CH IN
GND
R CH IN
MUTE
N.C
CN904 (WHT)
EXT REF V
ACK
H.M.ON
S/LINE
A MUTE
IR-3
1-945-327-11
FA-45
1-945-317-11
FP-79
1-945-311-11
FA-46
1-945-318-11
FV-38
1-945-314-11
VI-30
1-945-329-11
MT-41
1-945-333-11
W002 (WHT)
PFS LED
PFS
GND
RESET
SP STB
FUNC KEY 3
FUNC KEY 2
FUNC KEY 1
STILL ADJ
SLOW TRACON
WSD
SCK
W010 (WHT)
R CH IN
GND
RCH OUT
LCH OUT
GND
L CH IN
W007 (WHT)
OUT SWB
OUT SWA
E.E.CONT
AGC
MONO/ST
POWER ON
W001 (WHT)
REG -9V
GND
REG +9V
REG 5V
UNSW 5V
GND
GND
W008 (RED)
L CH IN
GND
R CH IN
MUTE
N.C
W004 (WHT)
EXT REF V
ACK
H.M.ON
S/LINE
A MUTE
W005 (WHT)
SYNC INT/EXT
GND
STILL ADJ
UNSW 5V
PRG INC
FR-13
1-945-315-11
W009 (WHT)
GND
L CH OUT
R CH OUT
FH-10
1-945-319-11
W011 (RED)
MIC CONT
MIC SIG
GND
MI-27
1-945-330-11
FB-169P
TC-20
W006 (WHT)
SELECT
GND
CONT P
GND
FR-14
1-945-316-11
CONTROL P
IN
OUT
CONTROL TERMINAL BOARD UNIT
(CONTROL P)
CN201 (WHT)
SELECT
GND
CONT P
GND
NIT


17
18
19
20
21
22
23
24
25
26
27
(WHT)
(Lch)
(Lch)
(Rch)
(Rch)
T (Lch)
(Lch)
T (Rch)
(Rch)
NO OUT
RPHONE)
AI-20
1-945-321-11
W503 (WHT)
LINE IN (Lch) 1
GND (Lch) 2
LINE IN (Rch) 3
GND (Rch) 4
LINE OUT (Lch) 5
GND (Lch) 6
LINE OUT (Rch) 7
GND (Rch) 8
LINE MONO OUT 9
GND (EARPHONE) 10
VI-27
1-945-320-11
W501 (WHT)
GND 1
V IN 2
GND 3
V OUT 1 4
REG 5V 5
GND 6
V OUT 2 7
JB-4
L
R
J505
AUDIO
IN
J501
VIDEO
L
R
J506
AUDIO
OUT
J502
VIDEO
(WHT)
1
2
W504 (WHT)
V M2 1
GND 2
REG 5V 3
GND 4
A M2 5
MO-2
1-945-322-11
(WHT)
N
W)
DIG)
V
CN301 (WHT)
V M2 1
GND 2
REG 5V 3
GND 4
A M2 5
JB-5
J301
VIDEO
RFU
DC OUT
5V 50mA
AUDIO
OUT
M907
DC FAN
SF60 FAN MOTOR
ASFC4130K
DC BRUSHLESS
9V DC 50mA
78
(WHT)
T
(WHT)
POWER ON
UNSW 5V
GND (UNSW)
REG 5V (DIG)
REG 5V
GND (5V)
REG -9V
GND (-9V)
GND (9V)
REG 9V
GND
DRIVE 9V
POWER BLOCK
AC IN
AC IN
AC IN
220~240V
VI-30
1-945-329-11
MT-41
1-945-333-11
CN403 (WHT)
EDIT 1
GND 2
CN402 (WHT)
Y OUT 1
GND 2
C OUT 3
GND 4
Y IN 5
GND 6
C IN 7
GND 8
TR-40
J402
IN
J401
OUT
S VIDEO
CN401 (YEL)
1 SYNC INT / EXT
2 GND
3 STILL ADJ
4 UNSW 5V
5 PRG INC
(WHT)
INT/EXT
L ADJ
5V
NC
FR-13
1-945-315-11
(WHT)
OUT
OUT
FH-10
1-945-319-11
CN201 (WHT)
GND 1
L CH 2
R CH 3
HE-2
3
2
1
J201
HEAD PHONES
(RED)
CONT
SIG
MI-27
1-945-330-11
CN601 (RED)
MIC CONT 1
MIC SIG 2
GND 3
MJ-25
J601
MIC/⊕
(WHT)
CT
P
FR-14
1-945-316-11
(WHT)
CT
P

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAM

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this , the necessary note is printed in each block.)

- **For printed wiring boards.**
- ○— : indicated a lead wire mounted on the component side.
- —— : indicated a lead wire mounted on the conductor side.
- ● : Through hole is omitted.
- ■ : Parts mounted on the conductor side.
- ▨ : Pattern from the side which enables seeing.
- : Pattern of the rear side.
- Circled numbers refer to waveforms.

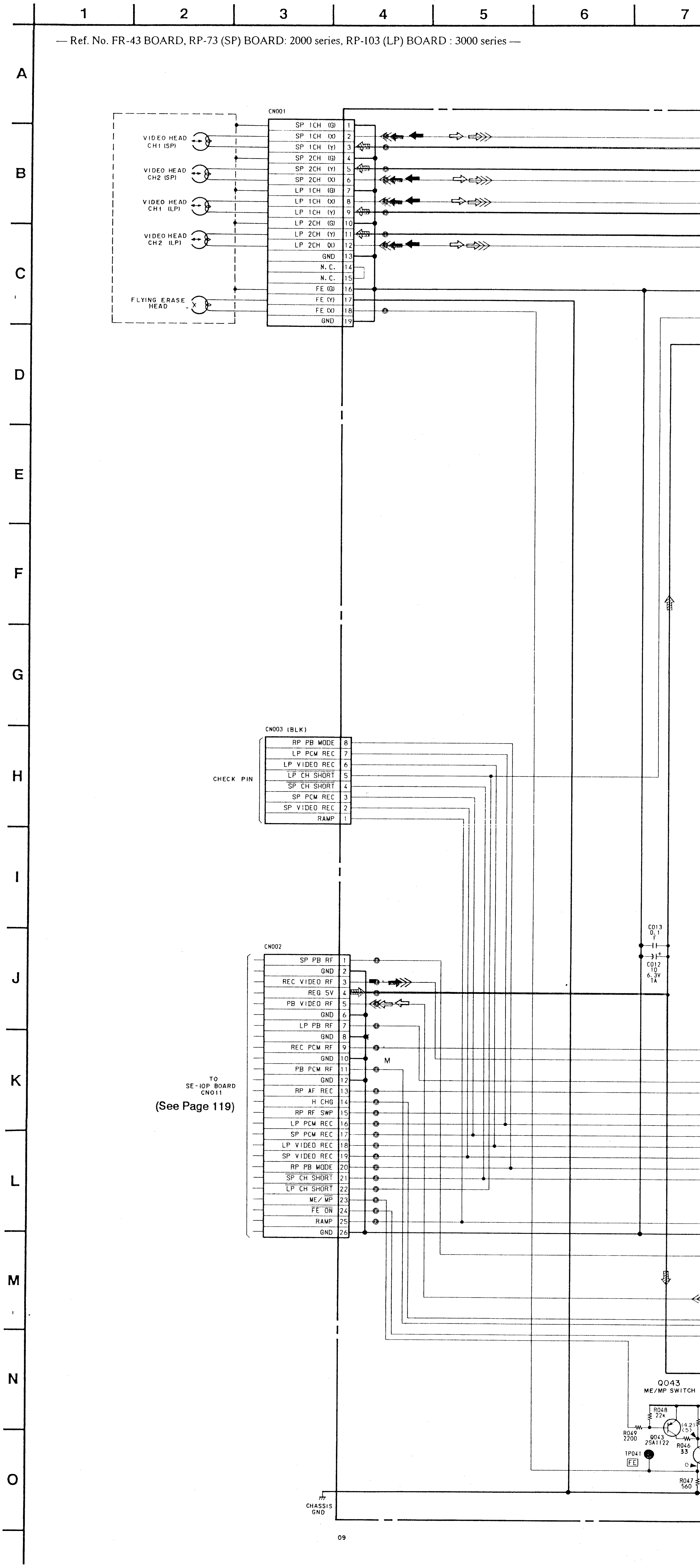
Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

- **For schematic diagrams.**
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minuts side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W unless otherwise noted.
  Chip resistor are 1/10W unless otherwise noted.
  kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repeair.
- —— : B+ Line.
- - - - : B– Line.
- ⇨ : IN/OUT direction of (+, –) B LINE.
- Circled numbers refer to waveforms.
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltages are taken with a VOM (Input impedance 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safty. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

FR-43 (HEAD AMP), RP-73 (LP) (HEAD AMP (LP)) , RP-103 (SP) (HEAD AMP (SP)) SCHEMATIC DIAGRA


— Ref. No. FR-43 BOARD, RP-73 (SP) BOARD: 2000 series, RP-103 (LP) BOARD : 3000 series —

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4
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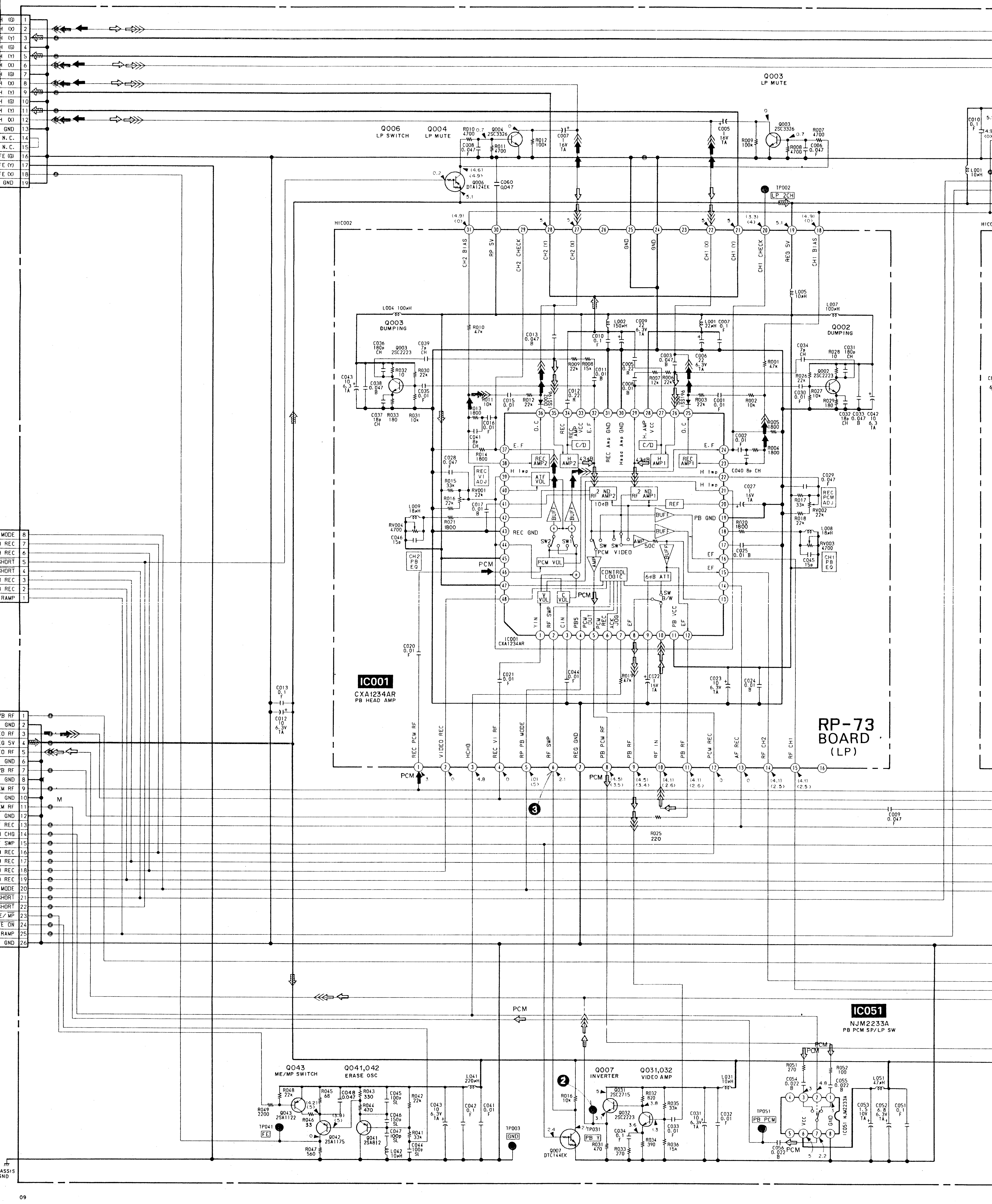
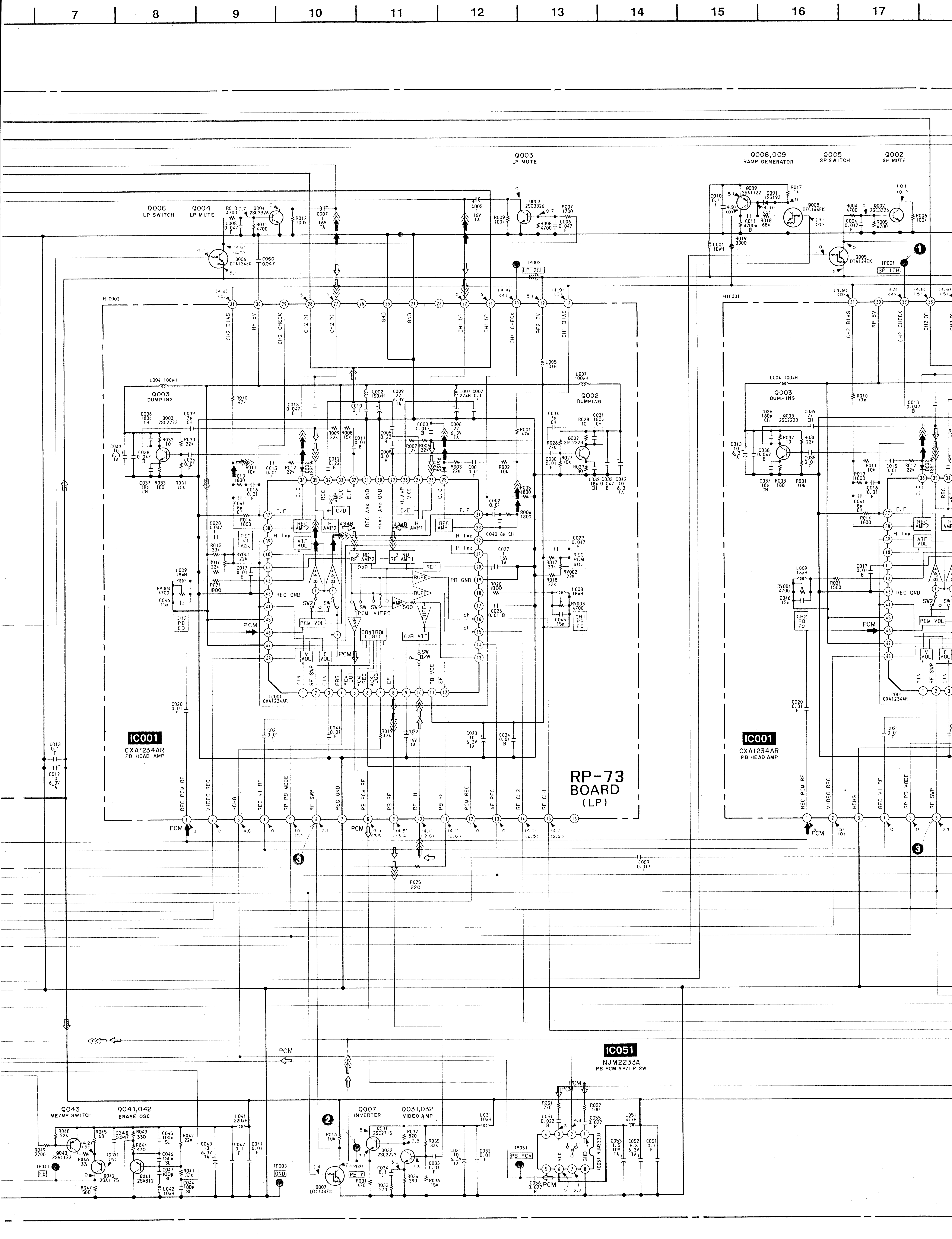
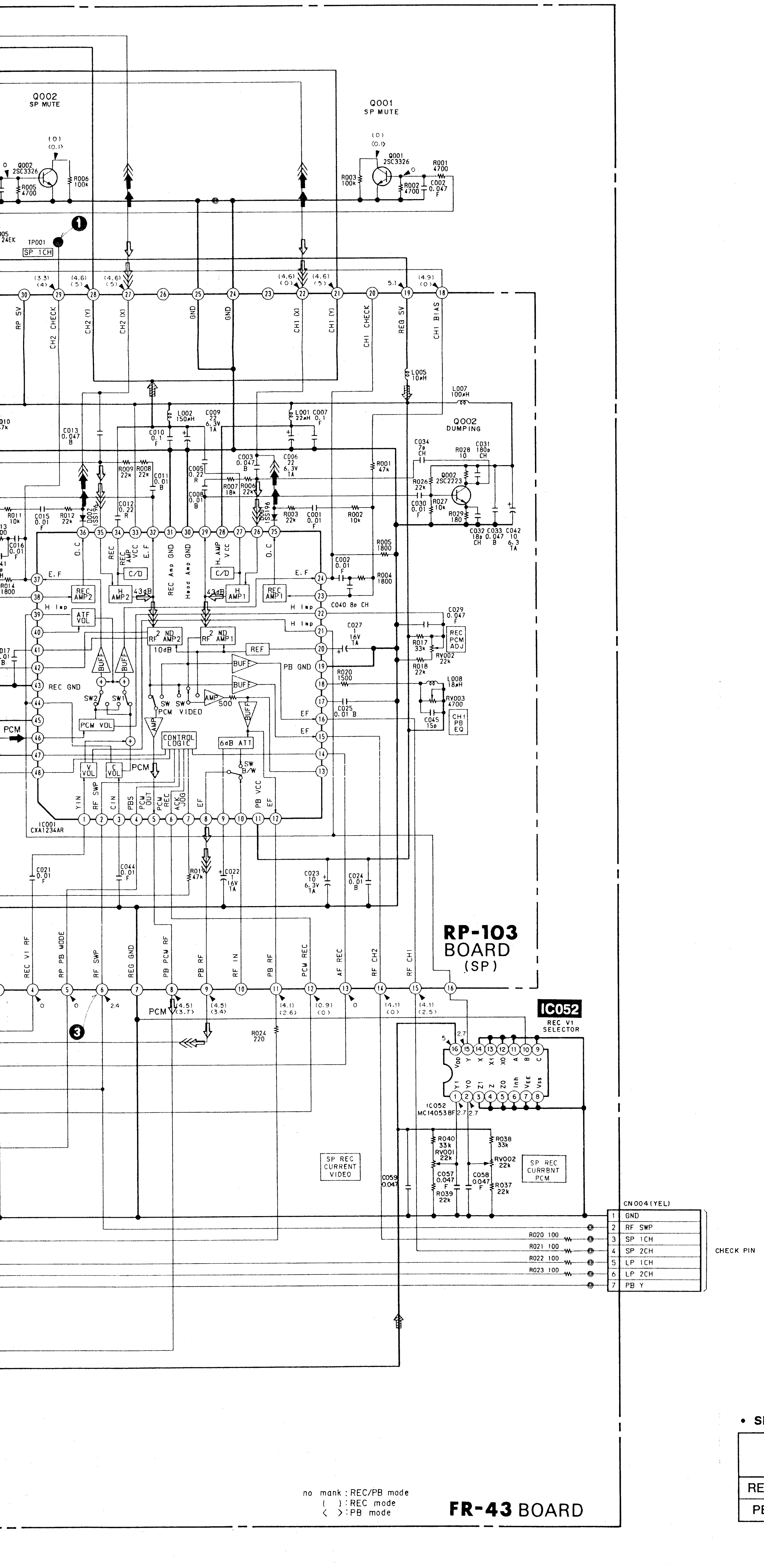
6
7
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
CN001
VIDEO HEAD CH1 (SP)
VIDEO HEAD CH2 (SP)
VIDEO HEAD CH1 (LP)
VIDEO HEAD CH2 (LP)
FLYING ERASE HEAD
SP 1CH (G) 1
SP 1CH (X) 2
SP 1CH (Y) 3
SP 2CH (G) 4
SP 2CH (Y) 5
SP 2CH (X) 6
LP 1CH (G) 7
LP 1CH (X) 8
LP 1CH (Y) 9
LP 2CH (G) 10
LP 2CH (Y) 11
LP 2CH (X) 12
GND 13
N. C. 14
N. C. 15
FE (G) 16
FE (Y) 17
FE (X) 18
GND 19
CN003 (BLK)
CHECK PIN
RP PB MODE 8
LP PCM REC 7
LP VIDEO REC 6
LP CH SHORT 5
SP CH SHORT 4
SP PCM REC 3
SP VIDEO REC 2
RAMP 1
CN002
TO SE-IOP BOARD CN011
(See Page 119)
SP PB RF 1
GND 2
REC VIDEO RF 3
REG 5V 4
PB VIDEO RF 5
GND 6
LP PB RF 7
GND 8
REC PCM RF 9
GND 10
PB PCM RF 11
GND 12
RP AF REC 13
H CHG 14
RP RF SWP 15
LP PCM REC 16
SP PCM REC 17
LP VIDEO REC 18
SP VIDEO REC 19
RP PB MODE 20
SP CH SHORT 21
LP CH SHORT 22
ME/ MP 23
FE ON 24
RAMP 25
GND 26
M
C013 0.1 F
C012 10 6.3V TA
Q043 ME/MP SWITCH
R048 22k
R049 2200
Q043 2SA1122
(4.2) (5)
R046 33
TP041
FE
R047 560
CHASSIS GND
09

HEAD AMP HEAD AMP

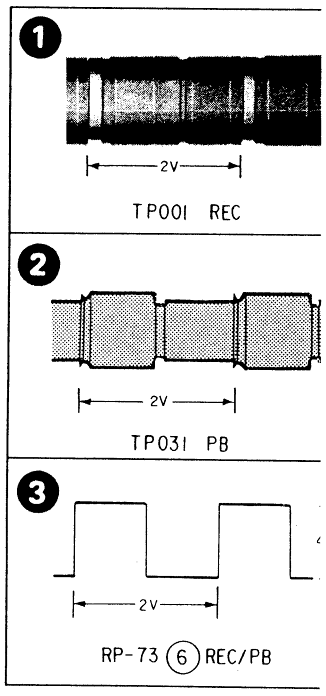
eries, RP-103 (LP) BOARD : 3000 series —


Q006
LP SWITCH
Q004
LP MUTE
Q003
LP MUTE
Q003
DUMPING
Q002
DUMPING
TP002
LP 2CH
HIC002
CH2 BIAS
RP 5V
CH2 CHECK
CH2 (Y)
CH2 (X)
GND
GND
CH1 (X)
CH1 (Y)
CH1 CHECK
REG 5V
CH1 BIAS
REC AMP2
H AMP2
H AMP1
REC AMP1
ATF VOL
REC VI ADJ
2 ND RF AMP2
2 ND RF AMP1
REF
BUF
AMP
SOC
PB GND
REC GND
SW VIDEO
PCM
PCM VOL
CONTROL LOGIC
6dB ATT
Y VOL
C VOL
CH2 PB EQ
CH1 PB EQ
REC PCM ADJ
IC001
CXA1234AR
IC001
CXA1234AR
PB HEAD AMP
RP-73
BOARD
(LP)
REC PCM RF
VIDEO REC
HCHG
REC VI RF
PB PB MODE
RF SWP
REG GND
PB PCM RF
PB RF
RF IN
PB RF
PCM REC
AF REC
RF CH2
RF CH1
❸
❷
Q043
ME/MP SWITCH
Q041,042
ERASE OSC
TP041
FE
TP003
GND
Q007
INVERTER
Q031,032
VIDEO AMP
TP031
PB Y
TP051
PB PCM
IC051
NJM2233A
PB PCM SP/LP SW
CHASSIS GND
GND
N.C.
N.C.
MODE
REC
SHORT
RAMP
PB RF
GND
REG 5V
M


7
8
9
10
11
12
13
14
15
16
17
Q003
LP MUTE
Q008,009
RAMP GENERATOR
Q005
SP SWITCH
Q002
SP MUTE
Q006
LP SWITCH
Q004
LP MUTE
TP002
LP 2CH
TP001
SP 1CH
HIC002
HIC001
CH2 BIAS
RP 5V
CH2 CHECK
CH2 (Y)
CH2 (X)
GND
CH1 (X)
CH1 (Y)
CH1 CHECK
REG 5V
CH1 BIAS
Q003
DUMPING
Q002
DUMPING
REC AMP2
H AMP2
H AMP1
REC AMP1
ATF VOL
REC V1 ADJ
REC PCM ADJ
2 ND RF AMP2
2 ND RF AMP1
REF
BUF
PB GND
REC GND
SW2
SW1
PCM VOL
PCM VIDEO
CONTROL LOGIC
6dB ATT
SW B/W
Y VOL
C VOL
CH2 PB EQ
CH1 PB EQ
IC001
CXA1234AR
IC001
CXA1234AR
PB HEAD AMP
RP-73
BOARD
(LP)
REC PCM RF
VIDEO REC
HCHG
REC V1 RF
RP PB MODE
RF SWP
REG GND
PB PCM RF
PB RF
RF IN
PB RF
PCM REC
AF REC
RF CH2
RF CH1
PCM
IC051
NJM2233A
PB PCM SP/LP SW
Q043
ME/MP SWITCH
Q041,042
ERASE OSC
Q007
INVERTER
Q031,032
VIDEO AMP
TP041
FE
TP003
GND
TP031
PB Y
TP051
PB PCM
R025
220
C009
0.047
F


Q002
SP MUTE
Q002
2SC3326
R005
4700
R006
100k
TP001
SP 1CH
Q001
SP MUTE
Q001
2SC3326
R003
100k
R001
4700
R002
4700
C002
0.047
RP SV
CH2 CHECK
CH2 (Y)
CH2 (X)
GND
GND
CH1 (X)
CH1 (Y)
CH1 CHECK
REB SV
CH1 BIAS
L005
10µH
L007
100µH
Q002
DUMPING
Q002
2SC2223
L002
150µH
L001
22µH
REC AMP2
H AMP2
C/D
H AMP1
REC AMP1
ATF VOL
2 ND RF AMP2
2 ND RF AMP1
REF
BUFF
PB GND
REC GND
SW2
SW1
PCM VOL
SW VIDEO
AMP
CONTROL LOGIC
6dB ATT
SW B/W
V VOL
C VOL
PCM
Y IN
RF SWP
C IN
PBS
PCM OUT
PCM REC
ACK JOG
EF
PB VCC
IC001
CXA1234AR
REC PCM ADJ
RV002
22k
CH1 PB EQ
RV003
4700
L008
18µH
REC V1 RF
RP PB MODE
RF SWP
REG GND
PB PCM RF
PB RF
RF IN
PB RF
PCM REC
AF REC
RF CH2
RF CH1
RP-103
BOARD
(SP)
IC052
REC V1
SELECTOR
IC052
MC14053BF
SP REC
CURRENT
VIDEO
SP REC
CURRBNT
PCM
CN004 (YEL)
1 GND
2 RF SWP
3 SP 1CH
4 SP 2CH
5 LP 1CH
6 LP 2CH
7 PB Y
CHECK PIN
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
FR-43 BOARD

FR-43 BOARD



- **SIGNAL PATH**

	VIDEO SIGNAL			AUDI
	CHROMA	Y	Y/CHROMA/DATA	SIGNA
REC			➡≫	➡
PB			⇨≫	⇨

FR-43 (HEAD AMP), RP-73 (LP) (HEAD AMP (LP)) , RP-103 (SP) (HEAD AMP (SP)) PRINTED WIRING BOARDS

— Ref. No. FR-43 BOARD, RP-73 (SP) BOARD: 2000 series, RP-103 (LP) BOARD : 3000 series —

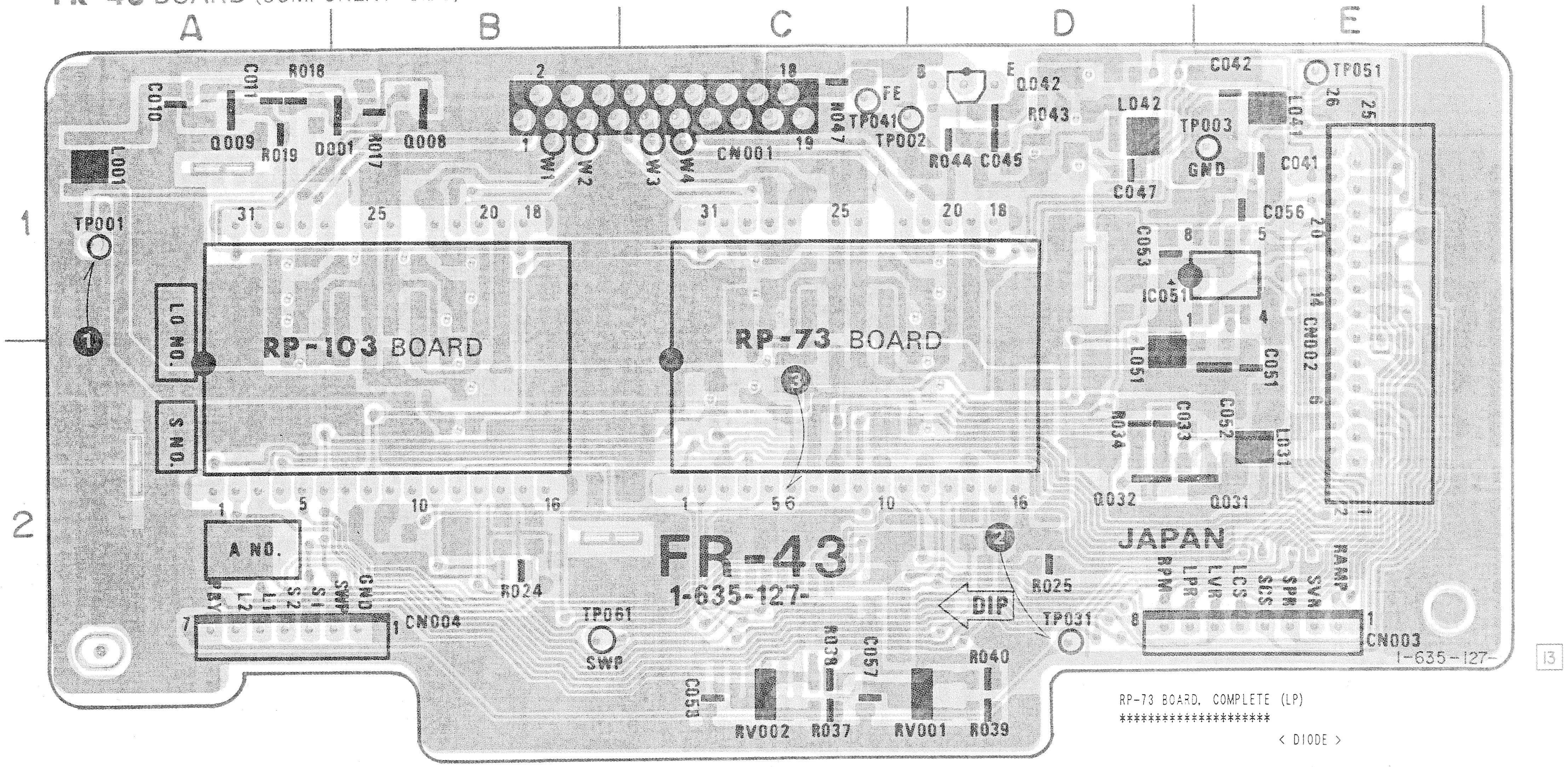
FR-43 BOARD
(COMPONENT
SIDE)

D001	A-1
IC051	E-1
Q008	B-1
Q009	A-1
Q031	E-2
Q032	D-2
Q042	D-1

FR-43 BOARD
(CONDUCTOR
SIDE)

Q001	B-2
Q002	A-2
Q003	D-2
Q004	C-2
Q005	B-2
Q006	D-2
Q007	C-2
Q041	D-1
Q043	D-1

FR-43 BOARD (COMPONENT SIDE)


A
B
C
D
E
1
2
C010
C011
R018
Q009
R019
D001
R017
Q008
2
18
1
19
W1
W2
W3
W4
CN001
R047
FE
TP041
TP002
B
E
Q042
R043
R044
C045
C042
TP051
L042
TP003
GND
L041
C047
C041
C056
L001
TP001
31
25
20
18
LO NO.
S NO.
RP-103 BOARD
RP-73 BOARD
C053
IC051
L051
C051
CN002
R034
C033
C052
L031
Q032
Q031
1
5
10
16
A NO.
R024
FR-43
1-635-127-
JAPAN
R025
DIP
TP031
RPM
LPR
LVR
LCS
SCS
SPR
SVN
RAMP
BRY
L2
L1
S2
S1
AMS
GND
CN004
TP061
SWP
R038
C057
R040
C058
RV002
R037
RV001
R039
CN003
1-635-127-
13

RP-73 BOARD, COMPLETE (LP)
****

< DIODE >

D001	8-719-801-41	DIODE 1SS196
D002	8-719-801-41	DIODE 1SS196

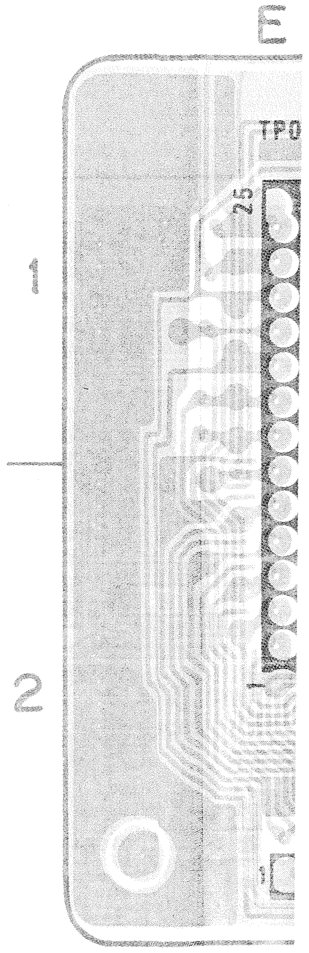
< IC >

IC001	8-752-033-00	IC CXA1234AR

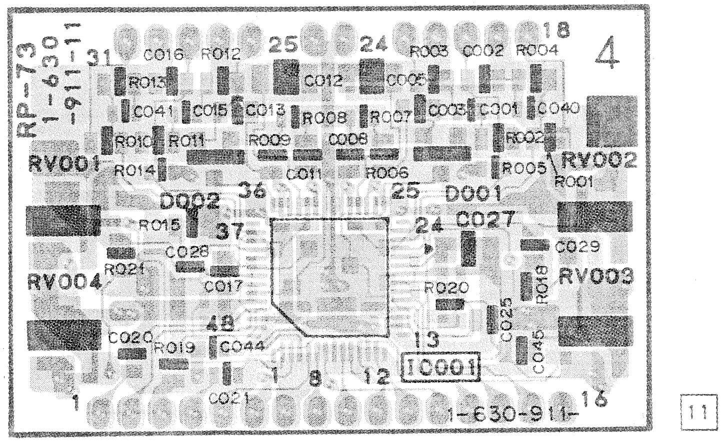
< TRANSISTOR >

Q002	8-729-102-07	TRANSISTOR 2SC2223-F13
Q003	8-729-102-07	TRANSISTOR 2SC2223-F13

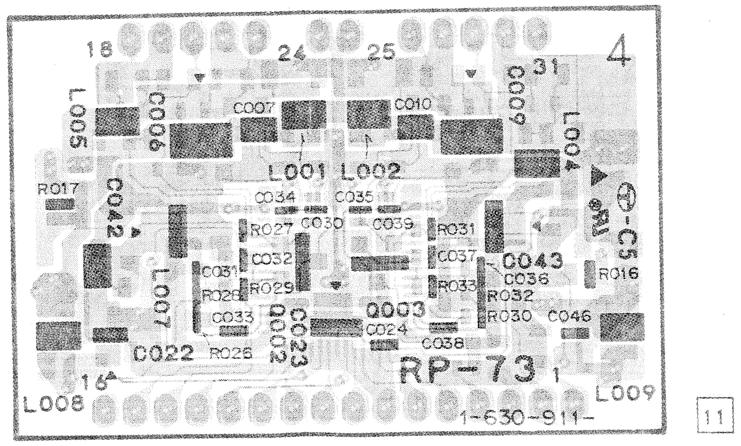
FR-43 BOAR



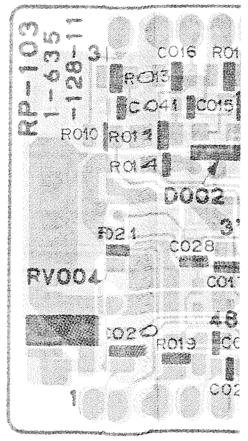
RP-73 BOARD (COMPONENT SIDE)


RP-73
1-630-911-11
31
25
24
18
4
C016
R012
R003
C002
R004
R013
C012
C005
C041
C015
C013
R008
R007
C003
C001
C040
R010
R011
R009
C008
R002
RV001
R014
C011
R006
R005
RV002
R001
D002
36
25
D001
R015
37
24
C027
C029
C028
R021
C017
RV003
RV004
R020
R018
C025
48
13
C020
R019
C044
C045
1
8
12
IC001
C021
1-630-911-
11

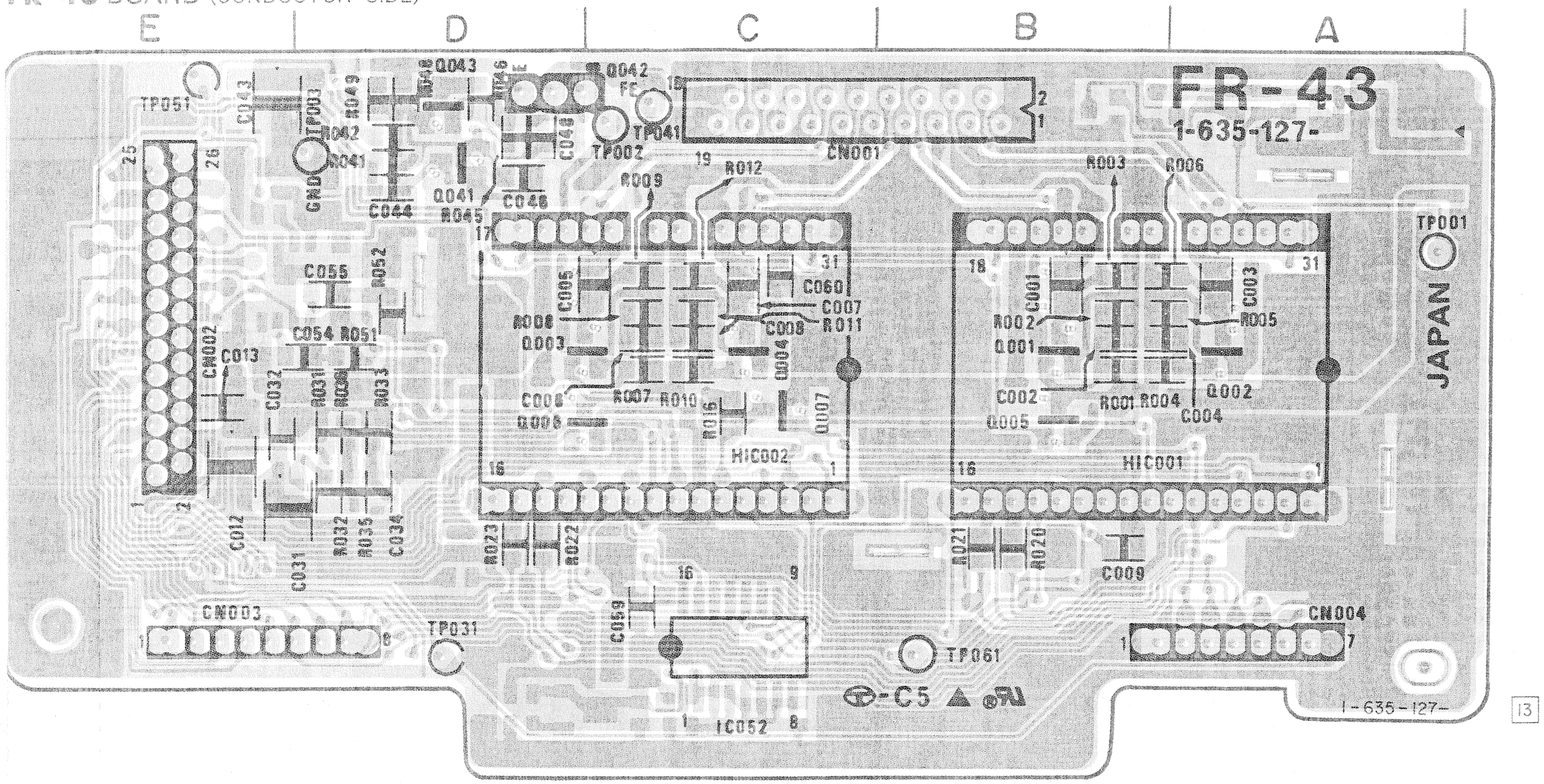
RP-73 BOARD (CONDUCTOR SIDE)


16
24
25
31
4
L005
C006
C007
C010
C009
L004
L001
L002
R017
C042
C034
C035
C5
R027
C030
C039
R031
C031
C032
C037
C043
R028
R029
R033
C036
R016
L007
C033
C023
Q002
Q003
R032
R030
C046
C024
C022
R026
C038
RP-73
L008
16
1
L009
1-630-911-
11

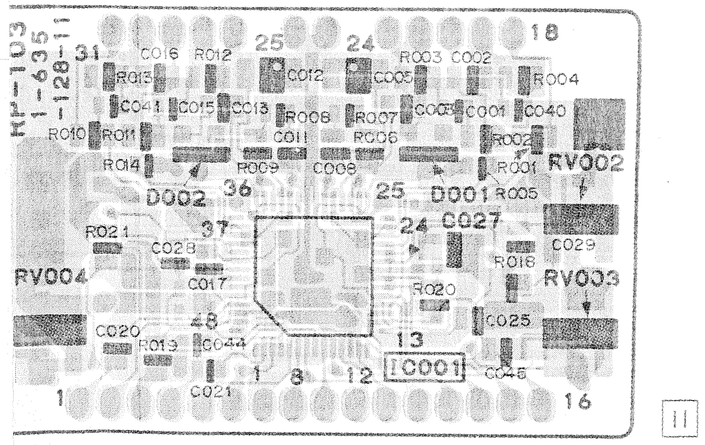
RP-103 BO


RP-103
1-128-11
31
C016
R013
C041
C015
R010
R011
R014
D002
R021
C028
RV004
C020
R019
48
1

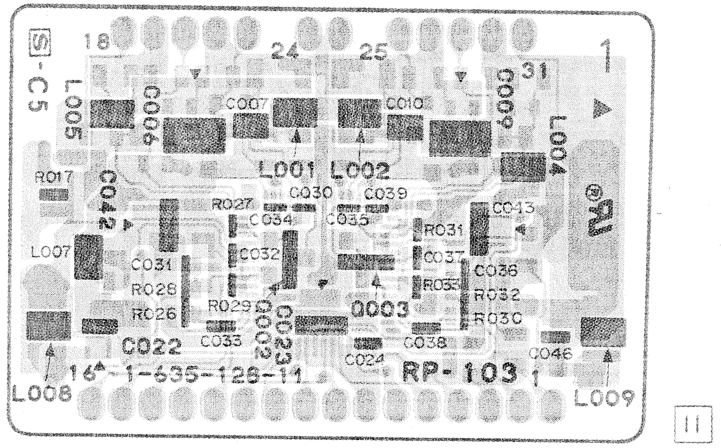
FR-43 BOARD (CONDUCTOR SIDE)


E
D
C
B
A
FR-43
1-635-127-
JAPAN
TP051
TP001
TP002
TP041
TP031
TP061
GND
FE
CN001
CN002
CN003
CN004
HIC001
HIC002
IC052
Q041
Q042
Q043
Q001
Q002
Q003
Q004
Q005
Q006
Q007
C5
1-635-127-
13

RP-103 BOARD (COMPONENT SIDE)


RP-103
1-635-128-11
IC001
D001
D002
RV002
RV003
RV004
11

RP-103 BOARD (CONDUCTOR SIDE)


S-C5
L001
L002
L004
L005
L007
L008
L009
Q002
Q003
1-635-128-11
RP-103
11

FR-43 BOARD, COMPLETE
****

< DIODE >

D001	8-719-400-18	DIODE MA152WK

< IC >

IC051	8-759-710-09	IC NJM2233AM
IC052	8-759-009-07	IC HD14053BFP

< TRANSISTOR >

Q001	8-729-202-38	TRANSISTOR	2SC3326N
Q002	8-729-202-38	TRANSISTOR	2SC3326N
Q003	8-729-202-38	TRANSISTOR	2SC3326N
Q004	8-729-202-38	TRANSISTOR	2SC3326N
Q005	8-729-901-05	TRANSISTOR	DTA124EK
Q006	8-729-901-05	TRANSISTOR	DTA124EK
Q007	8-729-901-01	TRANSISTOR	DTC144EK
Q008	8-729-901-01	TRANSISTOR	DTC144EK
Q009	8-729-320-17	TRANSISTOR	2SA1122-CD
Q031	8-729-201-27	TRANSISTOR	2SC2715-Y
Q032	8-729-102-07	TRANSISTOR	2SC2223-F13
Q041	8-729-216-22	TRANSISTOR	2SA1162
Q042	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q043	8-729-320-17	TRANSISTOR	2SA1122-CD

RP-103 BOARD, COMPLETE (SP)
****

< DIODE >

D001	8-719-801-41	DIODE 1SS196
D002	8-719-801-41	DIODE 1SS196

< IC >

IC001	8-752-033-00	IC CXA1234AR

< TRANSISTOR >

Q002	8-729-102-07	TRANSISTOR 2SC2223-F13
Q003	8-729-102-07	TRANSISTOR 2SC2223-F13

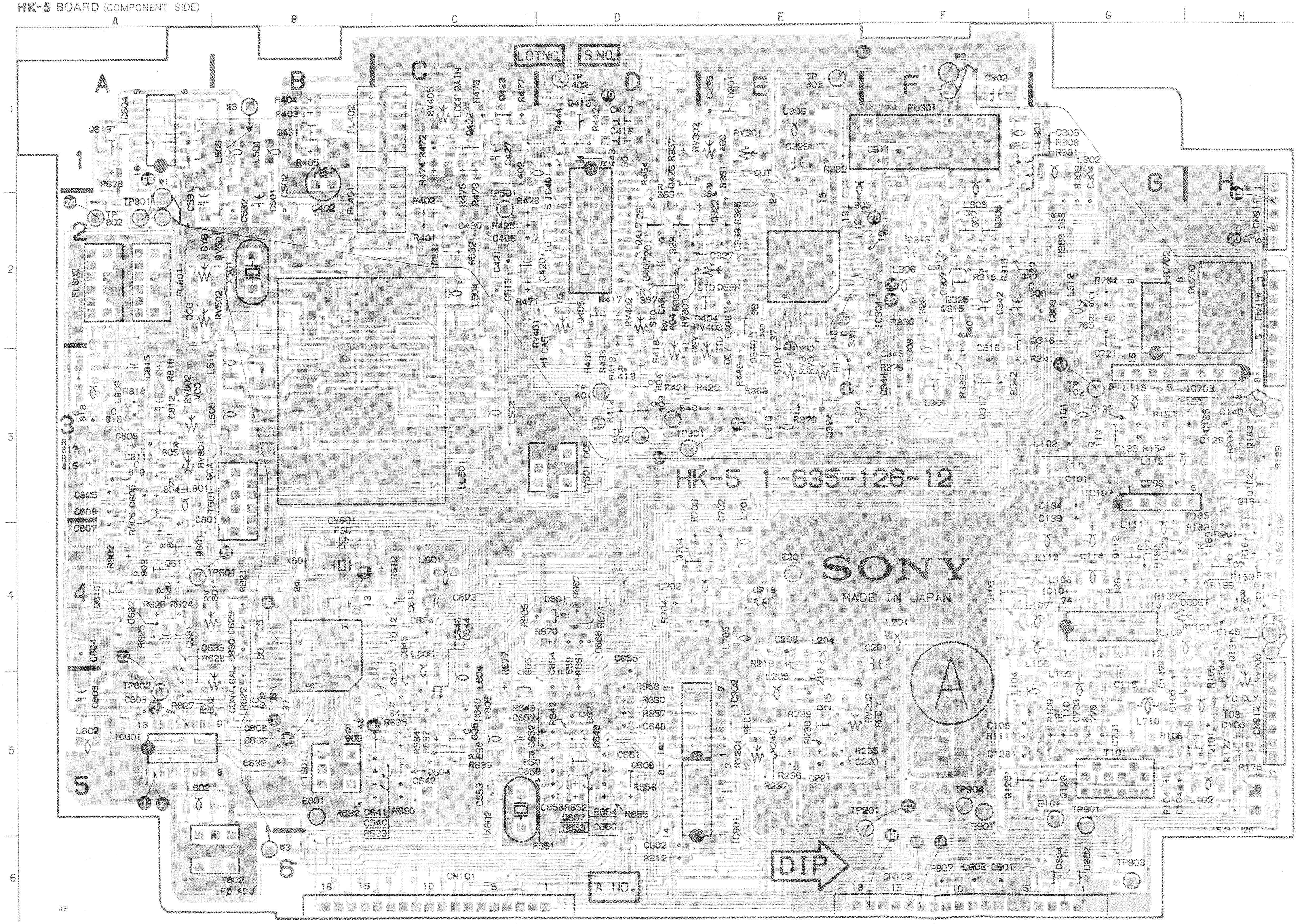
HK-5 (CHROMA SIGNAL PROCESS, Y SIGNAL PROCESS, Y/C/AFM MIX) PRINTED WIRING BOARD

— Ref. No. HK-5 BOARD: 4000 series —

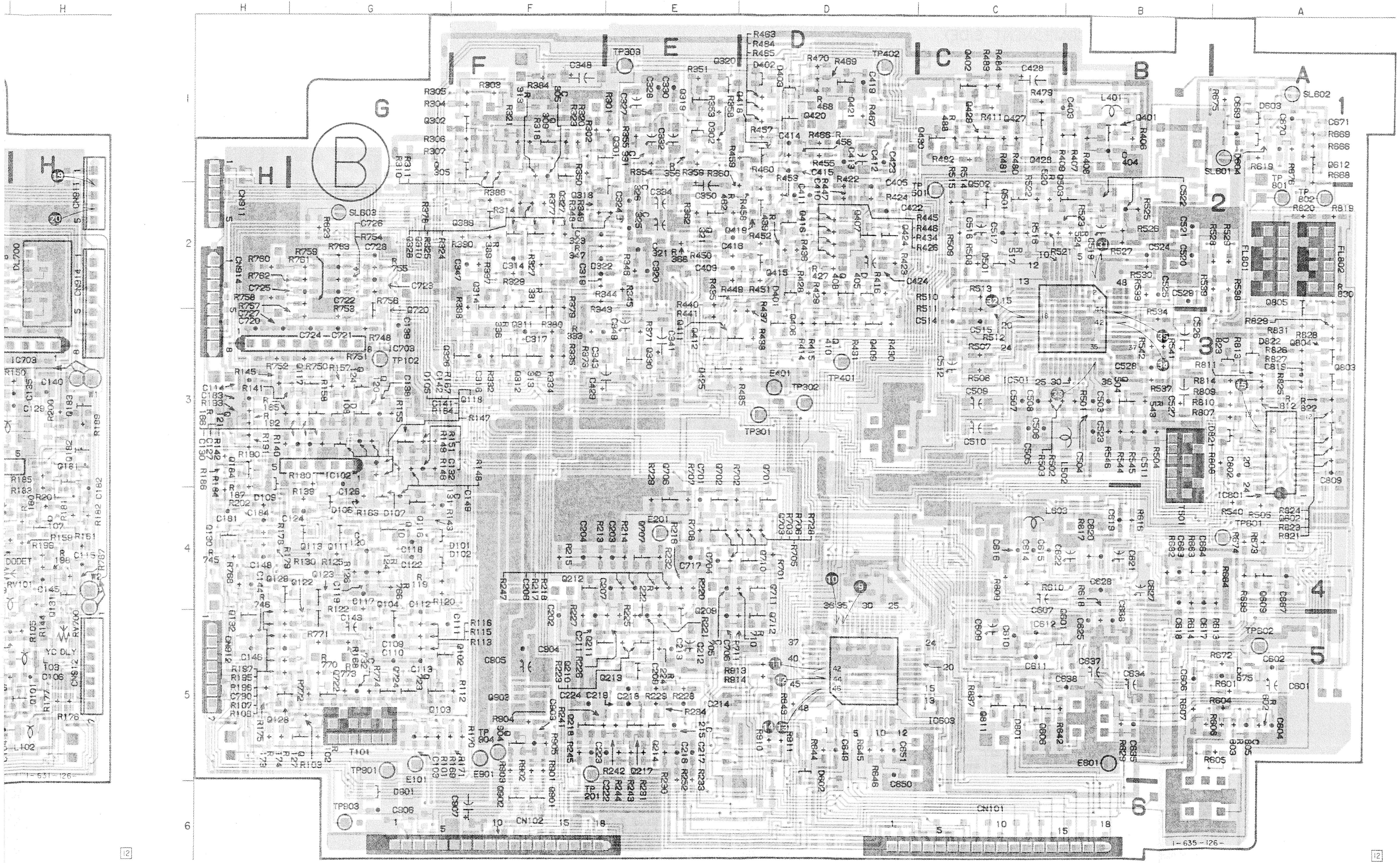
HK-5 BOARD (COMPONENT SIDE)	
D301	E-1
D404	E-2
D601	D-4
D605	C-5
D802	G-6
D804	G-6
IC101	G-4
IC102	G-3
IC301	F-2
IC401	D-1
IC601	A-5
IC602	B-5
IC702	G-2
IC703	H-3
IC901	E-5
IC902	E-5
Q101	H-5
Q105	F-4
Q107	H-4
Q112	G-4
Q119	G-3
Q125	F-5
Q126	G-5
Q131	H-4
Q181	H-3
Q182	H-3
Q215	E-5
Q306	F-2
Q307	F-2
Q315	F-2
Q316	G-2
Q317	F-3
Q322	E-2
Q323	D-2
Q324	E-3
Q325	F-2
Q403	D-3
Q404	D-3
Q405	D-2
Q413	D-1
Q414	E-2
Q417	D-2
Q422	C-1
Q423	C-1
Q426	D-1
Q431	B-1
Q603	B-5
Q604	C-5
Q605	C-5
Q607	D-5
Q608	D-5
Q610	A-4
Q611	A-4
Q704	D-4
Q721	G-3
Q801	A-4

HK-5 BOARD (CONDUCTOR SIDE)	
D101	F-4
D102	F-4
D105	G-3
D106	G-4
D107	F-4
D108	G-3
D109	H-4
D302	E-1
D401	D-2
D402	D-1
D403	D-1
D405	D-2
D501	C-2
D602	D-5
D603	A-1
D604	A-1
D801	C-5
D821	A-3
D822	A-3
D901	G-6
IC501	C-3
IC603	C-5
IC801	A-4
Q102	F-5
Q103	G-5
Q104	G-4
Q110	G-4
Q111	G-4
Q113	H-4
Q116	F-4
Q117	G-3
Q118	F-3
Q120	G-3
Q121	H-3
Q122	G-4
Q123	G-4
Q127	G-5
Q128	H-5
Q129	H-4
Q130	H-4
Q132	H-5
Q183	H-3
Q184	H-3
Q209	E-4
Q210	F-5
Q211	F-5
Q212	F-4
Q213	E-5
Q214	E-5
Q217	E-5
Q218	F-5
Q301	E-1
Q302	G-1
Q305	G-1
Q309	F-1
Q310	G-2
Q311	F-3
Q312	F-3
Q313	F-3
Q314	F-2
Q318	F-2
Q319	E-1
Q320	E-1
Q321	E-2
Q326	G-3
Q327	F-2
Q328	G-2
Q330	E-3
Q389	F-2
Q401	B-1
Q402	C-1
Q406	D-3
Q407	D-2
Q408	D-2
Q409	D-3
Q410	D-3
Q411	E-3
Q412	E-3
Q415	D-2
Q416	D-2
Q418	D-1
Q419	D-2
Q420	D-1
Q421	D-1
Q424	D-2
Q425	E-3
Q427	C-1
Q428	C-1
Q429	C-1
Q430	C-1
Q501	C-2
Q502	C-1
Q503	C-2
Q504	B-3
Q601	B-5
Q606	C-5
Q609	A-4
Q612	A-1
Q613	A-1
Q701	D-3
Q702	D-3
Q703	D-4
Q706	E-3
Q707	E-4
Q710	D-4
Q711	D-4
Q712	D-5
Q720	G-2
Q722	G-5
Q723	G-5
Q724	G-5
Q802	A-4
Q803	A-3
Q804	A-3
Q805	A-2
Q811	C-5
Q901	F-6
Q902	F-6
Q903	F-5
Q904	F-5

HK-5 BOARD (COMPONENT SIDE)


A
B
C
D
E
F
G
H
1
2
3
4
5
6
LOTNO.
S NO.
HK-5 1-635-126-12
SONY
MADE IN JAPAN
DIP
A NO.
CN101
CN102
T802
FB ADJ
FL802
FL601
FL401
FL402
FL301
DL501
DL700
IC601
IC102
IC103
IC703
IC702
TP801
TP802
TP601
TP602
TP301
TP201
TP904
TP901
TP903
X501
X601
X602
LOOP GAIN
STD DEEN
RV201
RV202
REC Y

HK-5 BOARD (CONDUCTOR SIDE)


H
G
F
E
D
C
B
A
1
2
3
4
5
6
TP303
TP402
TP301
TP302
TP401
TP102
TP901
TP903
TP904
TP801
TP802
TP501
TP502
TP601
TP201
SL601
SL602
SL603
E101
E201
E401
E601
E901
IC102
IC501
IC503
IC601
IC703
IC709
CN102
CN101
CN911
CN914
CN912
CN314
FL801
FL802
T101
T601
L401
L503
L504
1-635-126-
1-631-126-

HK-5 BOARD, COMPLETE
****

< DIODE >

D101	8-719-400-18	DIODE	MA152WK
D102	8-719-400-18	DIODE	MA152WK
D105	8-719-800-76	DIODE	1SS226
D106	8-719-400-18	DIODE	MA152WK
D107	8-719-400-18	DIODE	MA152WK
D108	8-719-400-18	DIODE	MA152WK
D109	8-719-400-18	DIODE	MA152WK
D301	8-719-400-18	DIODE	MA152WK
D302	8-719-400-18	DIODE	MA152WK
D401	8-719-400-18	DIODE	MA152WK
D402	8-719-400-18	DIODE	MA152WK
D403	8-719-400-18	DIODE	MA152WK
D404	8-719-400-18	DIODE	MA152WK
D405	8-719-400-18	DIODE	MA152WK
D501	8-719-400-18	DIODE	MA152WK
D601	8-719-800-76	DIODE	1SS226
D602	8-719-400-18	DIODE	MA152WK
D603	8-719-400-18	DIODE	MA152WK
D604	8-719-400-18	DIODE	MA152WK
D605	8-719-400-18	DIODE	MA152WK
D801	8-719-400-18	DIODE	MA152WK
D802	8-719-400-18	DIODE	MA152WK
D804	8-719-400-18	DIODE	MA152WK
D821	8-719-400-18	DIODE	MA152WK
D822	8-719-800-76	DIODE	1SS226
D823	8-719-800-76	DIODE	1SS226
D901	8-719-400-18	DIODE	MA152WK

< IC >

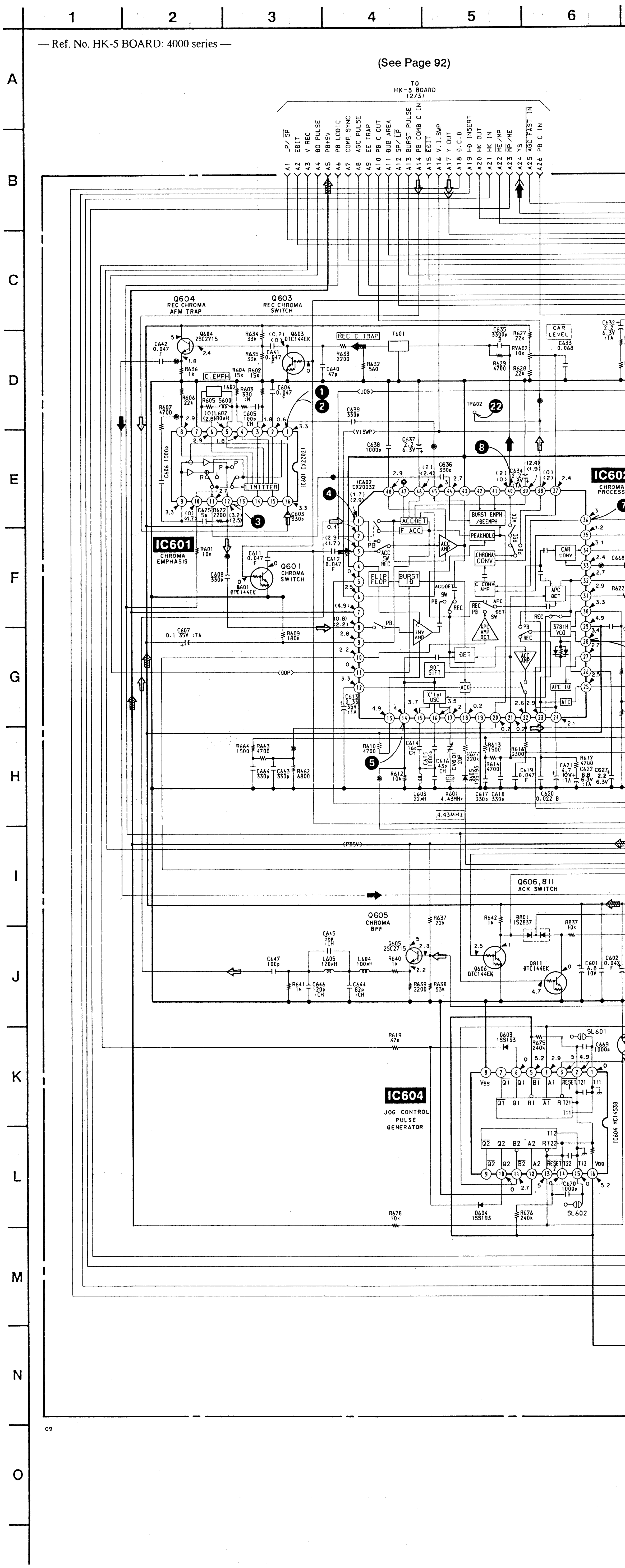
IC101	8-759-233-94	IC	TA8607F
IC102	8-759-925-60	IC	BA401
IC301	8-752-002-99	IC	CX20030
IC401	8-752-031-01	IC	CXA1047M
IC501	8-752-003-12	IC	CX20031
IC601	8-759-924-94	IC	CX22021
IC602	8-752-003-22	IC	CX20032
IC603	8-752-305-47	IC	CX23054
IC604	8-759-009-51	IC	MC14538BF
IC702	8-759-012-00	IC	MC10H116M
IC703	8-752-006-12	IC	CX20061
IC801	8-759-202-67	IC	CX20117
IC901	8-759-925-74	IC	SN74HC04ANS
IC902	8-759-925-74	IC	SN74HC04ANS

< TRANSISTOR >

Q101	8-729-200-86	TRANSISTOR	2SC2714-0
Q102	8-729-901-04	TRANSISTOR	DTA114EK
Q103	8-729-200-86	TRANSISTOR	2SC2714-0
Q104	8-729-901-01	TRANSISTOR	DTC144EK
Q105	8-729-904-07	TRANSISTOR	FMG2-T-148
Q107	8-729-201-27	TRANSISTOR	2SC2715-Y
Q110	8-729-901-01	TRANSISTOR	DTC144EK
Q111	8-729-200-86	TRANSISTOR	2SC2714-0
Q112	8-729-901-01	TRANSISTOR	DTC144EK
Q113	8-729-200-86	TRANSISTOR	2SC2714-0
Q116	8-729-201-27	TRANSISTOR	2SC2715-Y
Q117	8-729-200-86	TRANSISTOR	2SC2714-0
Q118	8-729-200-86	TRANSISTOR	2SC2714-0
Q119	8-729-200-86	TRANSISTOR	2SC2714-0
Q120	8-729-200-86	TRANSISTOR	2SC2714-0
Q121	8-729-201-27	TRANSISTOR	2SC2715-Y
Q122	8-729-901-01	TRANSISTOR	DTC144EK
Q123	8-729-901-01	TRANSISTOR	DTC144EK
Q124	8-729-901-06	TRANSISTOR	DTA144EK
Q125	8-729-901-01	TRANSISTOR	DTC144EK
Q126	8-729-201-27	TRANSISTOR	2SC2715-Y
Q127	8-729-201-27	TRANSISTOR	2SC2715-Y
Q128	8-729-202-38	TRANSISTOR	2SC3326N
Q129	8-729-201-27	TRANSISTOR	2SC2715-Y
Q130	8-729-201-27	TRANSISTOR	2SC2715-Y
Q131	8-729-216-22	TRANSISTOR	2SA1162
Q132	8-729-201-27	TRANSISTOR	2SC2715-Y
Q181	8-729-907-46	TRANSISTOR	IMZ1
Q182	8-729-903-10	TRANSISTOR	FMW1
Q183	8-729-200-86	TRANSISTOR	2SC2714-0
Q184	8-729-216-22	TRANSISTOR	2SA1162
Q209	8-729-200-86	TRANSISTOR	2SC2714-0
Q210	8-729-200-86	TRANSISTOR	2SC2714-0
Q211	8-729-200-86	TRANSISTOR	2SC2714-0
Q212	8-729-901-01	TRANSISTOR	DTC144EK
Q213	8-729-901-06	TRANSISTOR	DTA144EK
Q214	8-729-200-86	TRANSISTOR	2SC2714-0
Q215	8-729-902-96	TRANSISTOR	FMS1
Q217	8-729-200-86	TRANSISTOR	2SC2714-0
Q218	8-729-200-86	TRANSISTOR	2SC2714-0
Q301	8-729-201-27	TRANSISTOR	2SC2715-Y
Q302	8-729-201-27	TRANSISTOR	2SC2715-Y
Q305	8-729-201-27	TRANSISTOR	2SC2715-Y
Q306	8-729-201-27	TRANSISTOR	2SC2715-Y
Q307	8-729-201-27	TRANSISTOR	2SC2715-Y
Q309	8-729-201-27	TRANSISTOR	2SC2715-Y
Q310	8-729-201-27	TRANSISTOR	2SC2715-Y
Q311	8-729-201-27	TRANSISTOR	2SC2715-Y
Q312	8-729-901-06	TRANSISTOR	DTA144EK
Q313	8-729-216-22	TRANSISTOR	2SA1162
Q314	8-729-201-27	TRANSISTOR	2SC2715-Y
Q315	8-729-201-27	TRANSISTOR	2SC2715-Y
Q316	8-729-901-01	TRANSISTOR	DTC144EK
Q317	8-729-201-27	TRANSISTOR	2SC2715-Y
Q318	8-729-901-06	TRANSISTOR	DTA144EK
Q319	8-729-201-27	TRANSISTOR	2SC2715-Y
Q320	8-729-901-01	TRANSISTOR	DTC144EK
Q321	8-729-901-01	TRANSISTOR	DTC144EK
Q322	8-729-216-22	TRANSISTOR	2SA1162
Q323	8-729-901-01	TRANSISTOR	DTC144EK
Q324	8-729-901-01	TRANSISTOR	DTC144EK
Q325	8-729-901-06	TRANSISTOR	DTA144EK
Q326	8-729-901-06	TRANSISTOR	DTA144EK
Q327	8-729-201-27	TRANSISTOR	2SC2715-Y
Q328	8-729-201-27	TRANSISTOR	2SC2715-Y
Q330	8-729-901-06	TRANSISTOR	DTA144EK
Q389	8-729-201-27	TRANSISTOR	2SC2715-Y
Q401	8-729-201-27	TRANSISTOR	2SC2715-Y
Q402	8-729-201-27	TRANSISTOR	2SC2715-Y
Q403	8-729-901-01	TRANSISTOR	DTC144EK
Q404	8-729-901-01	TRANSISTOR	DTC144EK
Q405	8-729-901-06	TRANSISTOR	DTA144EK
Q406	8-729-201-27	TRANSISTOR	2SC2715-Y
Q407	8-729-216-22	TRANSISTOR	2SA1162
Q408	8-729-216-22	TRANSISTOR	2SA1162
Q409	8-729-201-27	TRANSISTOR	2SC2715-Y
Q410	8-729-216-22	TRANSISTOR	2SA1162
Q411	8-729-901-01	TRANSISTOR	DTC144EK
Q412	8-729-901-01	TRANSISTOR	DTC144EK
Q413	8-729-901-01	TRANSISTOR	DTC144EK
Q414	8-729-201-27	TRANSISTOR	2SC2715-Y
Q415	8-729-216-22	TRANSISTOR	2SA1162
Q416	8-729-216-22	TRANSISTOR	2SA1162
Q417	8-729-901-01	TRANSISTOR	DTC144EK
Q418	8-729-201-27	TRANSISTOR	2SC2715-Y
Q419	8-729-201-27	TRANSISTOR	2SC2715-Y
Q420	8-729-202-38	TRANSISTOR	2SC3326N
Q421	8-729-202-38	TRANSISTOR	2SC3326N
Q422	8-729-201-27	TRANSISTOR	2SC2715-Y
Q423	8-729-201-27	TRANSISTOR	2SC2715-Y
Q424	8-729-901-01	TRANSISTOR	DTC144EK
Q425	8-729-201-27	TRANSISTOR	2SC2715-Y
Q426	8-729-201-27	TRANSISTOR	2SC2715-Y
Q427	8-729-216-22	TRANSISTOR	2SA1162
Q428	8-729-216-22	TRANSISTOR	2SA1162
Q429	8-729-901-01	TRANSISTOR	DTC144EK
Q430	8-729-901-01	TRANSISTOR	DTC144EK
Q431	8-729-216-22	TRANSISTOR	2SA1162
Q501	8-729-901-06	TRANSISTOR	DTA144EK
Q502	8-729-901-01	TRANSISTOR	DTC144EK
Q503	8-729-901-00	TRANSISTOR	DTC124EK
Q504	8-729-201-27	TRANSISTOR	2SC2715-Y
Q601	8-729-901-01	TRANSISTOR	DTC144EK
Q603	8-729-901-01	TRANSISTOR	DTC144EK
Q604	8-729-201-27	TRANSISTOR	2SC2715-Y
Q605	8-729-201-27	TRANSISTOR	2SC2715-Y
Q606	8-729-901-01	TRANSISTOR	DTC144EK
Q607	8-729-201-27	TRANSISTOR	2SC2715-Y
Q608	8-729-216-22	TRANSISTOR	2SA1162
Q609	8-729-901-00	TRANSISTOR	DTC124EK
Q610	8-729-904-04	TRANSISTOR	FMS2-T-149
Q611	8-729-201-27	TRANSISTOR	2SC2715-Y
Q612	8-729-201-27	TRANSISTOR	2SC2715-Y
Q613	8-729-901-01	TRANSISTOR	DTC144EK
Q701	8-729-201-27	TRANSISTOR	2SC2715-Y
Q702	8-729-202-38	TRANSISTOR	2SC3326N
Q703	8-729-202-38	TRANSISTOR	2SC3326N
Q704	8-729-216-22	TRANSISTOR	2SA1162
Q706	8-729-201-27	TRANSISTOR	2SC2715-Y
Q707	8-729-201-27	TRANSISTOR	2SC2715-Y
Q710	8-729-901-01	TRANSISTOR	DTC144EK
Q711	8-729-901-01	TRANSISTOR	DTC144EK
Q712	8-729-901-01	TRANSISTOR	DTC144EK
Q720	8-729-200-86	TRANSISTOR	2SC2714-0
Q721	8-729-200-86	TRANSISTOR	2SC2714-0
Q722	8-729-200-86	TRANSISTOR	2SC2714-0
Q723	8-729-201-27	TRANSISTOR	2SC2715-Y
Q724	8-729-901-01	TRANSISTOR	DTC144EK
Q801	8-729-901-01	TRANSISTOR	DTC144EK
Q802	8-729-201-27	TRANSISTOR	2SC2715-Y
Q803	8-729-201-27	TRANSISTOR	2SC2715-Y
Q804	8-729-201-27	TRANSISTOR	2SC2715-Y
Q805	8-729-216-22	TRANSISTOR	2SA1162
Q811	8-729-901-01	TRANSISTOR	DTC144EK
Q901	8-729-901-01	TRANSISTOR	DTC144EK
Q902	8-729-901-01	TRANSISTOR	DTC144EK
Q903	8-729-104-25	TRANSISTOR	2SB804-AV
Q904	8-729-201-27	TRANSISTOR	2SC2715-Y

HK-5 (CHROMA SIGNAL PROCESS) SCHEMATIC DIAGRAM

— Ref. No. HK-5 BOARD: 4000 series —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A
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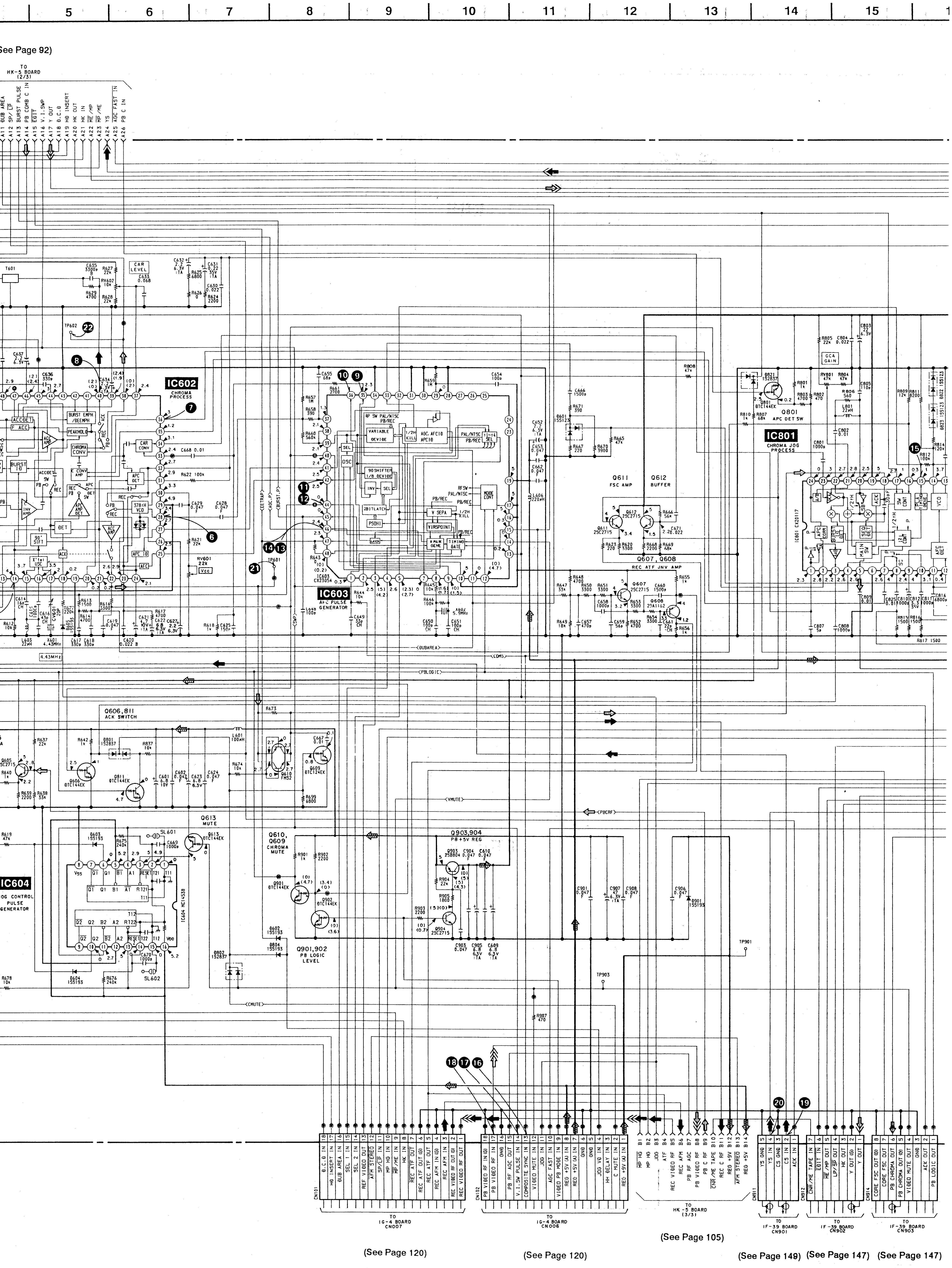
O
(See Page 92)
TO HK-5 BOARD (2/3)
A1 LP/SP
A2 EDIT
A3 V REC
A4 60 PULSE
A5 PB+5V
A6 PB LOGIC
A7 COMP SYNC
A8 AGC PULSE
A9 EE TRAP
A10 PB C OUT
A11 DUB AREA
A12 SP/LP
A13 BURST PULSE
A14 PB COMB C IN
A15 EDIT
A16 V.I.SWP
A17 Y OUT
A18 D.C.O
A19 HD INSERT
A20 HK OUT
A21 HK IN
A22 RE/HP
A23 HP/ME
A24 YS
A25 AGC FAST IN
A26 PB C IN
Q604 REC CHROMA AFM TRAP
Q603 REC CHROMA SWITCH
REC C TRAP
T601
C.EMPH
LIMITTER
IC601 CX22021
IC601 CHROMA EMPHASIS
Q601 CHROMA SWITCH
IC602 CX20032
IC602 CHROMA PROCESS
ACC DET
F ACC
BURST EMPH /DEEMPH
PEAKHOLD
CHROMA CONV
FLIP FLOP
BURST ID
ACC DET SW
INV AMP
DET
90° SIFT
X'tal OSC
ACK
APC DET
APC AMP DET
APC ID
AFC
CAR CONV
CAR LEVEL
378fH VCO
C CONV AMP
4.43MHz
TP602
(JOG)
(V1SWP)
(DDP)
(PB5V)
Q605 CHROMA BPF
Q606,811 ACK SWITCH
IC604 JOG CONTROL PULSE GENERATOR
IC604 MC14538
SL601
SL602
09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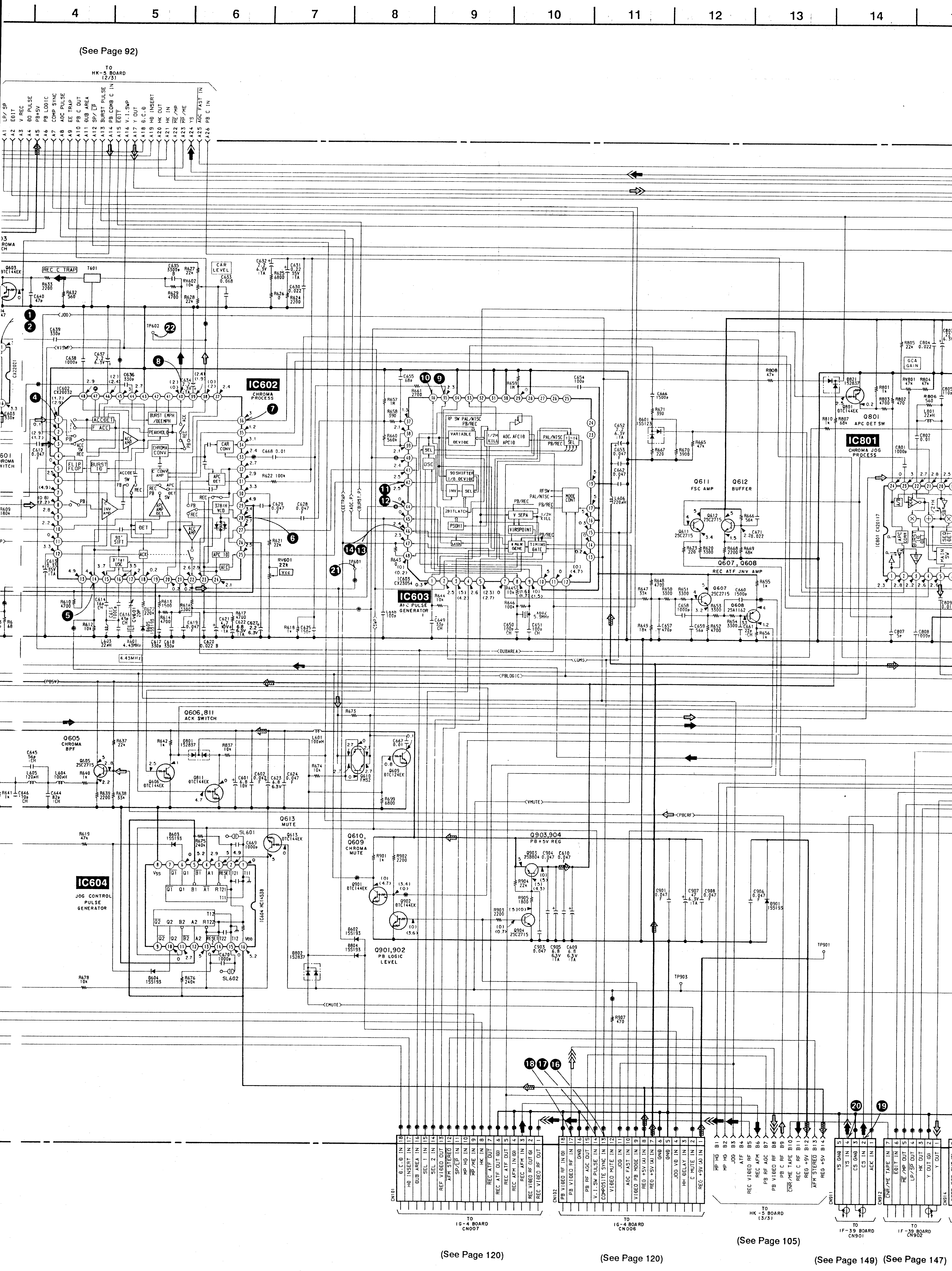
See Page 92)
TO HK-5 BOARD (2/3)
A11 DUB AREA
A12 SP/LP
A13 BURST PULSE
A14 PB COMB C IN
A15 EDIT
A16 V.I.SWP
A17 Y OUT
A18 B.C.0
A19 HD INSERT
A20 HK OUT
A21 HK IN
A22 ME/MP
A23 MP/ME
A24 YS
A25 AGC FAST IN
A26 PB C IN
T601
CAR LEVEL
TP602
IC602
CHROMA PROCESS
BURST EMPH /BEEMPH
PEAKHOLD
CHROMA CONV
CAR CONV
ACC DET
F ACC
ACC AMP
BURST ID
ACC DET SW
INV AMP
APC DET
APC ID
AFC
378fH VCO
90° SIFT
X'tal OSC
DET
ACK
IC603
AFC PULSE GENERATOR
CX23054
RP SW PAL/NTSC PB/REC
VARIABLE DEVIDE
1/2H KILL
AGC AFC ID APC ID
PAL/NTSC PB/REC
90 SHIFTER 1/8 DEVIDE
INV
SEL
OSC
2BIT LATCH
PSOH1
V SEPA
V1RSPOINT
H PULSE GENE
TIMING GATE
MODE CONT
TP601
4.43MHz
X601 4.43MHz
Q611 FSC AMP
Q612 BUFFER
Q607, Q608 REC ATF JNV AMP
IC801
CHROMA JOG PROCESS
IC801 CXD1117
Q801 APC DET SW
GCA GAIN
<DUBAREA>
<CDMS>
<PBLOGIC>
Q606,811 ACK SWITCH
Q613 MUTE
Q610, Q609 CHROMA MUTE
<YMUTE>
<PBCRF>
Q903,904 PB +5V REG
IC604
JOG CONTROL PULSE GENERATOR
IC604 MC14538
SL601
SL602
Q901,902 PB LOGIC LEVEL
TP901
TP903
<CMUTE>
CN101
B.C.0 IN
HD INSERT IN
DUB AREA IN
SEL 1 IN
SEL 2 IN
REF VIDEO OUT
AFM STEREO
SP/LP IN
MP/ME IN
HK IN
REC ATF OUT
REC ATF OUT (G)
REC ATF OUT
REC AFM IN (G)
REC AFM IN
REC VIDEO RF OUT (G)
REC VIDEO RF OUT
TO IG-4 BOARD CN007
(See Page 120)
CN102
PB VIDEO RF IN (G)
PB VIDEO RF IN
GND
PB RF AGC OUT
V.I.SW PULSE IN
COMPOSITE SYNC IN
VIDEO MUTE IN
JOG IN
AGC FAST IN
VIDEO PB MODE IN
REG +5V (A) IN
REG +5V (A) IN
GND
JOG VD IN
HH DELAY IN
C MUTE IN
REG +9V (A) IN
TO IG-4 BOARD CN006
(See Page 120)
B1 HP HG
B2 MP HG
B3 JOG
B4 ATF
B5 REC VIDEO RF
B6 REC AFM
B7 PB RF AGC
B8 PB VIDEO RF
B9 PB C RF
B10 CNR/ME TAPE
B11 REC C RF
B12 REG +9V
B13 AFM STEREO
B14 REG +5V
TO HK-5 BOARD (3/3)
(See Page 105)
CN911
YS GND
YS IN
CS GND
CS IN
ACK IN
TO IF-39 BOARD CN901
(See Page 149)
CN912
CNR/ME TAPE IN
EDIT IN
ME/MP OUT
LP/SP OUT
HK OUT
Y OUT (G)
Y OUT
TO IF-39 BOARD CN902
(See Page 147)
CN914
CORE FSC OUT (G)
CORE FSC OUT
PB CHROMA OUT (G)
PB CHROMA OUT
VIDEO MUTE OUT
GND
ACK OUT
PB LOGIC OUT
TO IF-39 BOARD CN903
(See Page 147)

(See Page 92)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TO
HK-5 BOARD
(2/3)
A1 LP/SP
A2 EDIT
A3 V REC
A4 80 PULSE
A5 PB+5V
A6 PB LOGIC
A7 COMP SYNC
A8 AGC PULSE
A9 EE TRAP
A10 PB C OUT
A11 DUB AREA
A12 SP/LP
A13 BURST PULSE
A14 PB COMB C IN
A15 EDIT
A16 V.I.SWP
A17 Y OUT
A18 B.C.O
A19 HD INSERT
A20 HK OUT
A21 HK IN
A22 ME/MP
A23 HP/ME
A24 YS
A25 AGC FAST IN
A26 PB C IN
IC602
CHROMA
PROCESS
IC603
AFC PULSE
GENERATOR
IC604
JOG CONTROL
PULSE
GENERATOR
IC801
CHROMA JOG
PROCESS
Q801
APC DET SW
Q611
FSC AMP
Q612
BUFFER
Q607, Q608
REC ATF JNV AMP
Q606,811
ACK SWITCH
Q605
CHROMA
BPF
Q613
MUTE
Q610,
Q609
CHROMA
MUTE
Q903,904
PB +5V REG
Q901,902
PB LOGIC
LEVEL
REC C TRAP
T601
CAR
LEVEL
GCA
GAIN
TP602
TP601
TP901
TP903
CN101
CN102
CN911
CN912
TO
IG-4 BOARD
CN007
TO
IG-4 BOARD
CN006
TO
HK-5 BOARD
(3/3)
TO
IF-39 BOARD
CN901
TO
IF-39 BOARD
CN902

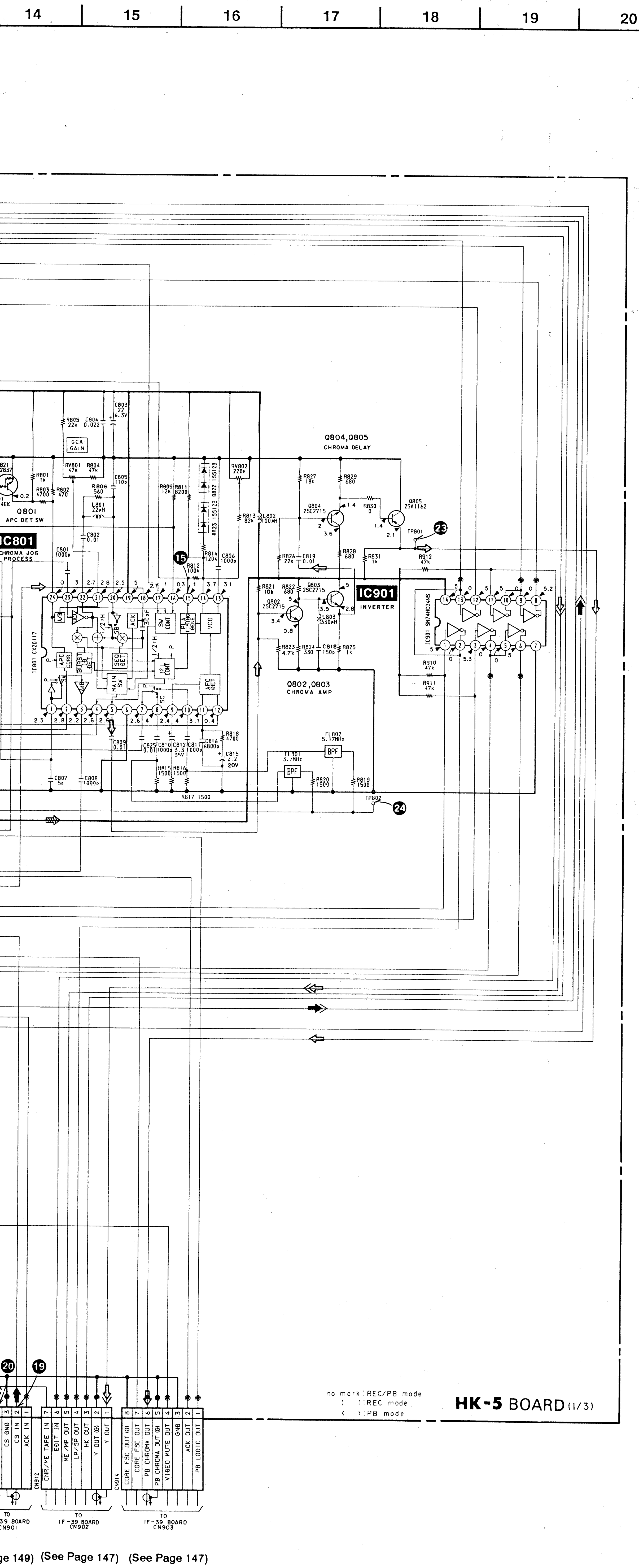
(See Page 120)

(See Page 120)

(See Page 105)

(See Page 149)

(See Page 147)


14
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IC801
CHROMA JOG
PROCESS
IC801 CX20117
Q801
APC DET SW
GCA GAIN
Q804,Q805
CHROMA DELAY
Q804 2SC2715
Q805 2SA1162
TP801
IC901
INVERTER
IC901 SN74HC04NS
Q802 2SC2715
Q803 2SC2715
Q802,Q803
CHROMA AMP
FL801 5.7MHz
FL802 5.17MHz
BPF
TP802
VCO
AFC DET
SW CONT
RV801
RV802
L801
L802
L803
R617 1500
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
HK-5 BOARD (1/3)
CS GND
CS IN
ACK IN
CN912
CNR/ME TAPE IN
EDIT IN
ME/MP OUT
LP/SP OUT
HK OUT
Y OUT (9)
Y OUT
CN914
CORE FSC OUT (9)
CORE FSC OUT
PB CHROMA OUT
PB CHROMA OUT (9)
VIDEO MUTE OUT
GND
ACK OUT
PB LOGIC OUT
TO IF-39 BOARD CN901
TO IF-39 BOARD CN902
TO IF-39 BOARD CN903
⑮
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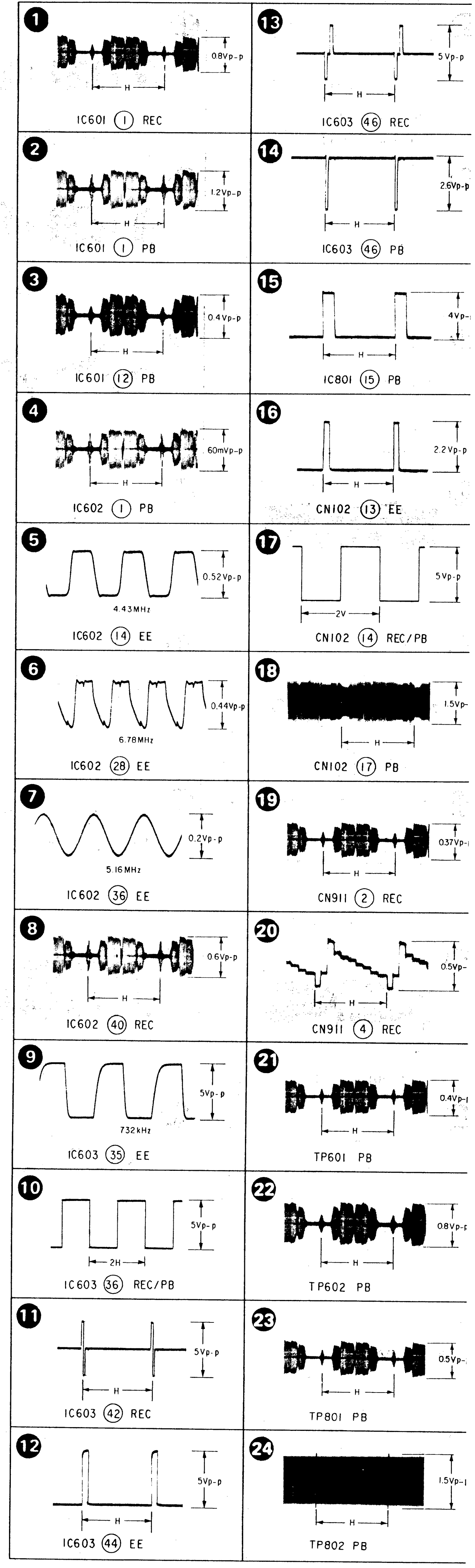
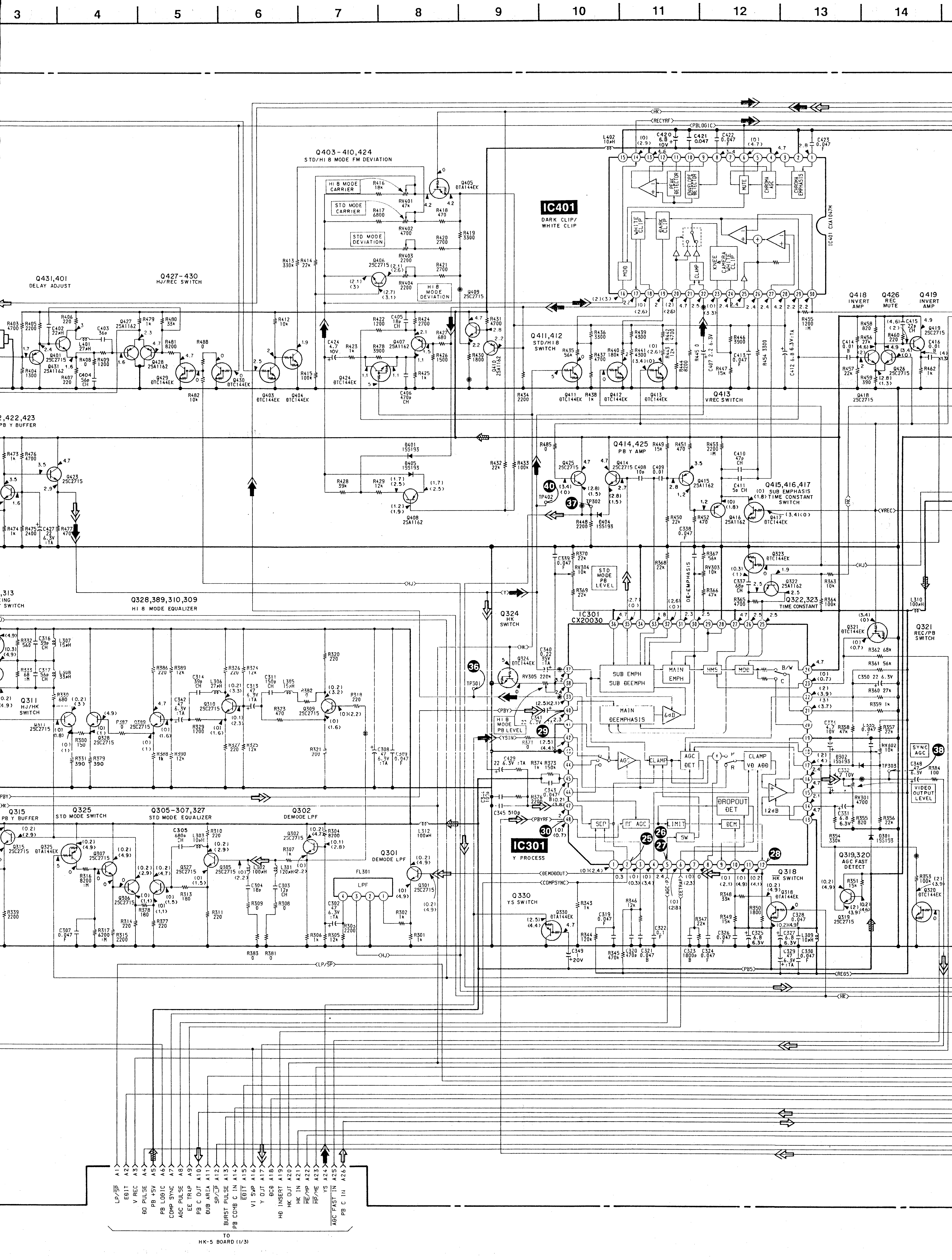
ge 149) (See Page 147) (See Page 147)

HK-5 BOARD (1/3)



- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC	➡	➡➡	➡➡➡	➡
PB	⇨	⇨⇨	⇨⇨⇨	⇨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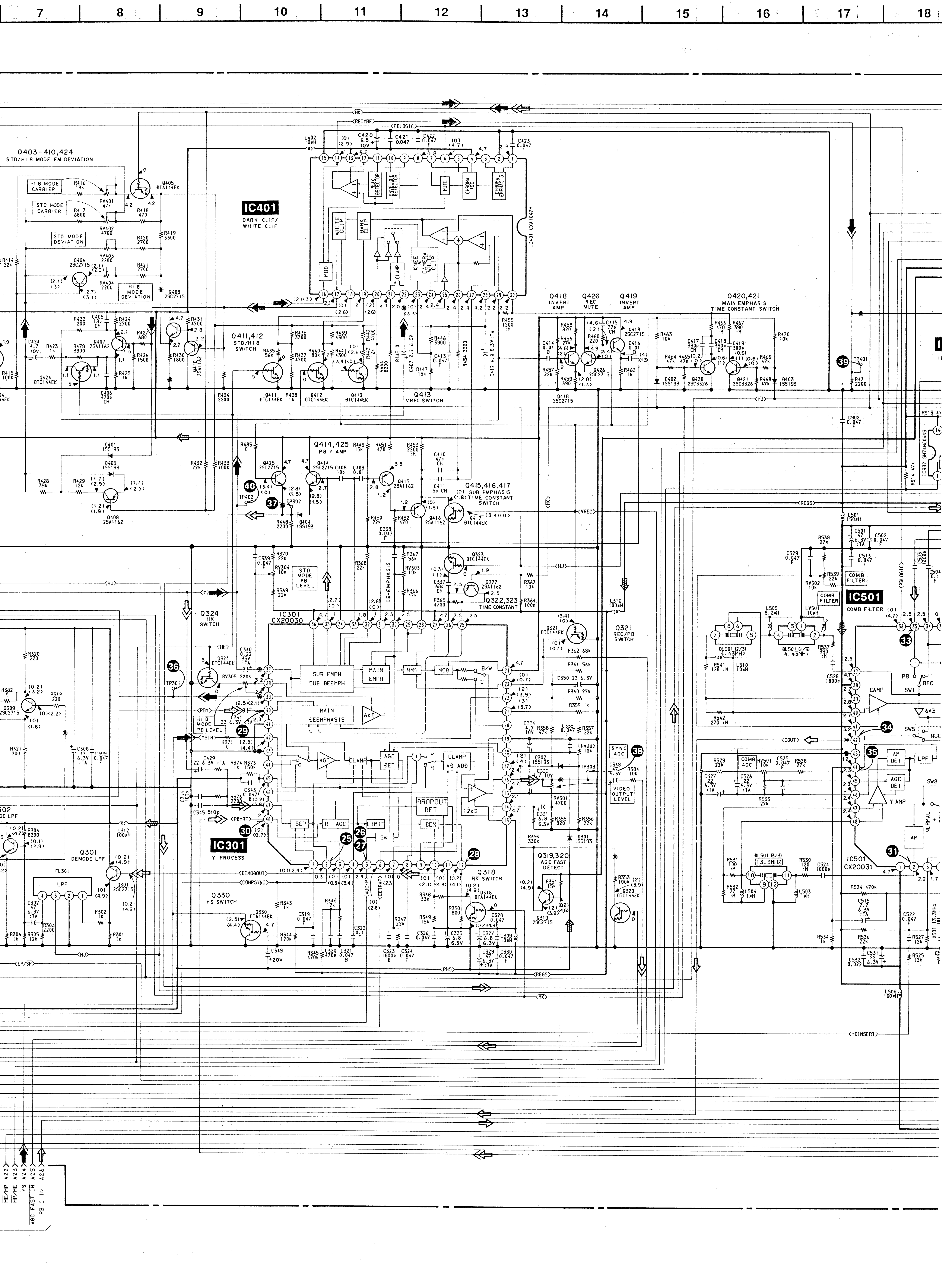
Q403-410,424
STD/HI 8 MODE FM DEVIATION
HI 8 MODE CARRIER
STD MODE CARRIER
STD MODE DEVIATION
HI 8 MODE DEVIATION
Q405 DTA144EK
Q409 2SC2715
IC401
DARK CLIP/ WHITE CLIP
IC401 CXA1047M
PEAK DETECTOR
ENVELOPE DETECTOR
MUTE
CHROMA AGC
CHROMA EMPHASIS
WHITE CLIP
DARK CLIP
MOD
CLAMP
KNEE CAMERA WHITE CLIP
Q431,401
DELAY ADJUST
Q427-430
HJ/REC SWITCH
Q411,412
STD/HI8 SWITCH
Q413
VREC SWITCH
Q418 INVERT AMP
Q426 REC MUTE
Q419 INVERT AMP
Q414,425
PB Y AMP
Q415,416,417
(0) SUB EMPHASIS
(1.8) TIME CONSTANT SWITCH
Q408 2SA1162
,422,423
PB Y BUFFER
Q423 2SC2715
Q328,389,310,309
HI 8 MODE EQUALIZER
Q311
HJ/HK SWITCH
Q324
HK SWITCH
STD MODE PB LEVEL
DE-EMPHASIS
Q322,323
TIME CONSTANT
IC301
CX20030
SUB EMPH
SUB DEEMPH
MAIN EMPH
HMS
MOD
B/W
MAIN DEEMPHASIS
6dB
HI 8 MODE PB LEVEL
AGC
CLAMP
AGC DET
CLAMP VD ADD
DROPOUT DET
DEM
SCP
RF AGC
LIMIT
SW
12dB
Q321
REC/PB SWITCH
SYNC AGC
VIDEO OUTPUT LEVEL
Q319,320
AGC FAST DETECT
Q315
PB Y BUFFER
Q325
STD MODE SWITCH
Q305-307,327
STD MODE EQUALIZER
Q302
DEMODE LPF
Q301
DEMODE LPF
FL301
LPF
Q330
YS SWITCH
Q318
HK SWITCH
IC301
Y PROCESS
TP301
TP302
TP303
TP402
(HK)
(RECYRF)
(PBLOGIC)
(HJ)
(Y)
(PBY)
(YSIN)
(PBYRF)
(VREC)
(DEMODOUT)
(COMPSYNC)
(LP/SP)
(PBS)
(REGS)
A1 LP/SP
A2 EDIT
A3 V REC
A4 DD PULSE
A5 PB +5V
A6 PB LOGIC
A7 COMP SYNC
A8 AGC PULSE
A9 EE TRAP
A10 PB C OUT
A11 DUB AREA
A12 SP/LP
A13 BURST PULSE
A14 PB COMB C IN
A15 EDIT
A16 V1 SWP
A17 Y OUT
A18 DCG
A19 HD INSERT
A20 HK OUT
A21 HK IN
A22 HE/MP
A23 HP/ME
A24 YS
A25 AGC FAST IN
A26 PB C IN
TO HK-5 BOARD (1/3)

(See Page 88)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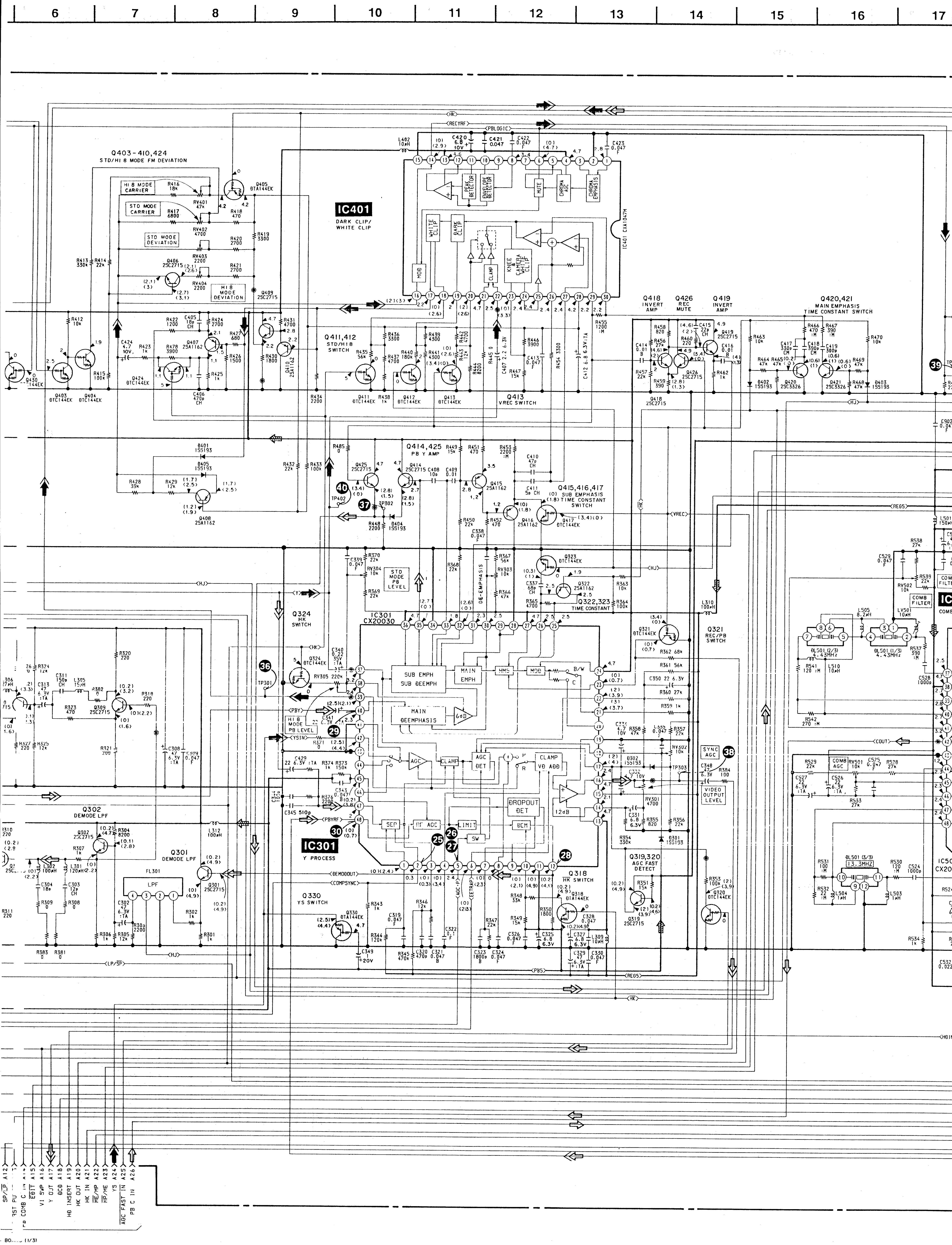
Q403-410,424
STD/HI 8 MODE FM DEVIATION
HI 8 MODE CARRIER
STD MODE CARRIER
STD MODE DEVIATION
HI 8 MODE DEVIATION
IC401
DARK CLIP/ WHITE CLIP
IC401 CXA1047M
PEAK DETECTOR
ENVELOPE DETECTOR
MUTE
CHROMA AGC
CHROMA EMPHASIS
WHITE CLIP
DARK CLIP
MOD
CLAMP
KNEE CAMERA CLIP
Q411,412 STD/HI8 SWITCH
Q413 VREC SWITCH
Q418 INVERT AMP
Q426 REC MUTE
Q419 INVERT AMP
Q420,421 MAIN EMPHASIS TIME CONSTANT SWITCH
Q414,425 PB Y AMP
Q415,416,417 SUB EMPHASIS TIME CONSTANT SWITCH
STD MODE PB LEVEL
DE-EMPHASIS
Q322,323 TIME CONSTANT
Q324 HK SWITCH
IC301 CX20030
SUB EMPH SUB DEEMPH
MAIN EMPH
MAIN DEEMPHASIS
HI 8 MODE PB LEVEL
AGC
CLAMP
AGC DET
CLAMP VD ADD
DROPOUT DET
SCP
RF AGC
LIMIT
DEM
SW
Q321 REC/PB SWITCH
SYNC AGC
VIDEO OUTPUT LEVEL
Q319,320 AGC FAST DETECT
Q318 HK SWITCH
Q330 YS SWITCH
IC301 Y PROCESS
Q301 DEMODE LPF
FL301 LPF
COMB FILTER
IC501 COMB FILTER
CAMP
SW1
PB
REC
AGC DET
Y AMP
AM
IC501 CX20031
COMB AGC
13.3MHZ
ME/MP A22
ME/MP A23
YS A24
AGC FAST IN A25
PB C IN A26
VIDE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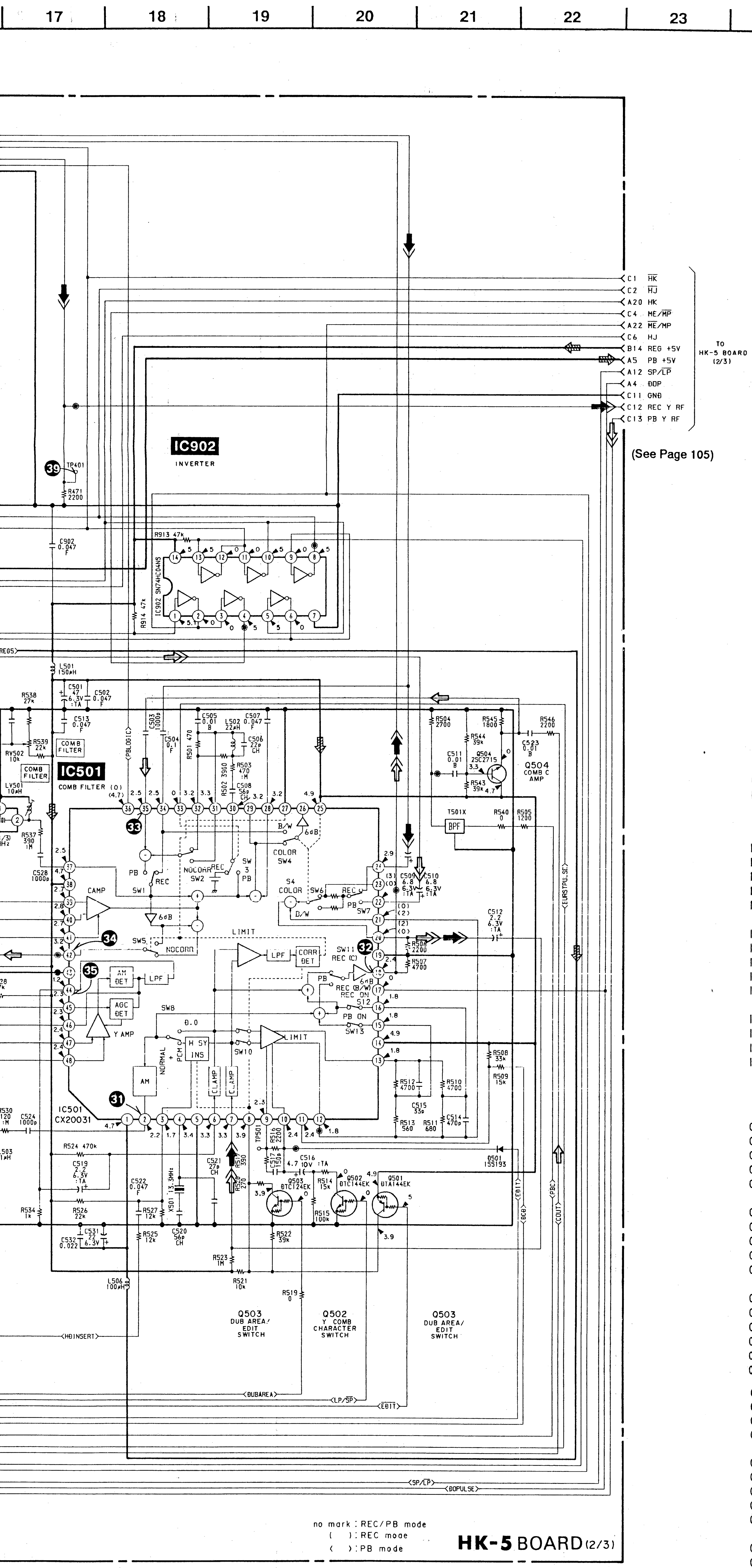
IC401
DARK CLIP/ WHITE CLIP
IC401 CXA1047M
PEAK DETECTOR
ENVELOPE DETECTOR
MUTE
CHROMA AGC
CHROMA EMPHASIS
WHITE CLIP
DARK CLIP
MOD
CLAMP
KNEE & CAMERA WHITE CLIP
Q403-410,424
STD/HI 8 MODE FM DEVIATION
HI 8 MODE CARRIER
STD MODE CARRIER
STD MODE DEVIATION
HI 8 MODE DEVIATION
Q405 DTA144EK
Q406 2SC2715
Q409 2SC2715
Q407 2SA1162
Q424 DTC144EK
Q410 2SA1162
Q403 DTC144EK
Q404 DTC144EK
Q430 DTC144EK
Q408 2SA1162
Q411,412 STD/HI8 SWITCH
Q413 VREC SWITCH
Q414,425 PB Y AMP
Q415,416,417
(0) SUB EMPHASIS
(1.8) TIME CONSTANT SWITCH
Q418 INVERT AMP
Q426 REC MUTE
Q419 INVERT AMP
Q420,421 MAIN EMPHASIS TIME CONSTANT SWITCH
Q322,323 TIME CONSTANT
Q321 REC/PB SWITCH
Q324 HK SWITCH
IC301 CX20030
IC301 Y PROCESS
SUB EMPH
SUB DEEMPH
MAIN EMPH
MAIN DEEMPHASIS
STD MODE PB LEVEL
HI 8 MODE PB LEVEL
DE-EMPHASIS
AGC
CLAMP
AGC DET
CLAMP VD ADD
DROPOUT DET
SEP
RF AGC
LIMIT
SW
DEM
12dB
6dB
B/W
SYNC AGC
VIDEO OUTPUT LEVEL
Q319,320 AGC FAST DETECT
Q318 HK SWITCH
Q330 YS SWITCH
Q302 DEMODE LPF
Q301 DEMODE LPF
FL301
LPF
COMB FILTER
COMB AGC
DL501 (2/3) 4.43MHz
DL501 (1/3) 4.43MHz
DL501 (3/3) 13.3MHz
HK
RECYRF
PBLOGIC
HJ
Y
PBY
YSIN
PBYRF
DEMODOUT
COMPSYNC
LP/SP
PBS
REG5
VREC
COUT
TP301
TP302
TP303
TP402
25
26
27
28
29
30
36
37
38
39
40
SP/LP A12
RST PU
P COMB C
EDIT A15
VI SWP A16
Y OUT A17
BCD A18
HD INSERT A19
HK OUT A20
HK IN A21
HE/MP A22
MP/ME A23
YS A24
AGC FAST IN A25
PB C IN A26


17
18
19
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21
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23
24
C1 HK
C2 HJ
A20 HK
C4 ME/MP
A22 ME/MP
C6 HJ
B14 REG +5V
A5 PB +5V
A12 SP/LP
A4 DOP
C11 GND
C12 REC Y RF
C13 PB Y RF
TO HK-5 BOARD (2/3)
(See Page 105)
IC902
INVERTER
TP401
R471 2200
C902 0.047 F
R913 47k
R914 47k
IC902 SN74HC04ANS
L501 150μH
C501 47 6.3V :TA
C502 0.047 F
C513 0.047
R538 27k
R539 22k
RV502 10k
COMB FILTER
LV501 10μH
IC501
COMB FILTER (0) (4.7)
R537 390 :M
C528 1000p
CAMP
SW1
SW2
SW3
SW4
S4 COLOR
SW5
SW6
SW7
SW8
SW10
SW11
S12
SW13
NOCORR
LIMIT
LPF
CORR DET
AM DET
AGC DET
Y AMP
H SY INS
CLAMP
C-AMP
AM
NORMAL
PCM
PB
REC
B/W
6dB
REC (C)
REC (B/W)
REC ON
PB ON
R501 470
R502 3300
R503 470 :M
C503 100p
C504 0.1 F
C505 0.01 B
L502 22μH
C506 22p CH
C507 0.047 F
C508 56p CH
R504 2700
R545 1800
R544 39k
R543 39k
C511 0.01 B
Q504 2SC2715
Q504 COMB C AMP
R546 2200
C523 0.01 B
T501X
BPF
R540 0
R505 1200
C509 6.8 6.3V :TA
C510 6.8 6.3V :TA
C512 2.2 6.3V :TA
R506 2200
R507 4700
R508 33k
R509 15k
R512 4700
R510 4700
C515 33p
R513 560
R511 680
C514 470p
IC501 CX20031
R524 470k
C519 2.2 6.3V :TA
C522 0.047 F
R527 12k
R526 22k
R525 12k
C531 22 6.3V
C532 0.022
C520 56p CH
X501 13.5MHz
C521 27p CH
R534 1k
R523 1M
R521 10k
R522 39k
R519 0
L506 100μH
TP501
R516 2200
C517 150p
C516 4.7 10V :TA
R517 390
R520 270
Q503 DTC124EK
Q502 DTC144EK
Q501 DTA144EK
R514 15k
R515 100k
D501 1SS193
Q503 DUB AREA/ EDIT SWITCH
Q502 Y COMB CHARACTER SWITCH
Q503 DUB AREA/ EDIT SWITCH
PBLOGIC
EURSTPULSE
EDIT
BCB
PBC
COUT
HDINSERT
DUBAREA
LP/SP
EDIT
SP/LP
DOPULSE
REG5
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
HK-5 BOARD (2/3)

HK-5 BOARD, COMPLETE
****

< DIODE >

D101	8-719-400-18	DIODE	MA152WK
D102	8-719-400-18	DIODE	MA152WK
D105	8-719-800-76	DIODE	1SS226
D106	8-719-400-18	DIODE	MA152WK
D107	8-719-400-18	DIODE	MA152WK
D108	8-719-400-18	DIODE	MA152WK
D109	8-719-400-18	DIODE	MA152WK
D301	8-719-400-18	DIODE	MA152WK
D302	8-719-400-18	DIODE	MA152WK
D401	8-719-400-18	DIODE	MA152WK
D402	8-719-400-18	DIODE	MA152WK
D403	8-719-400-18	DIODE	MA152WK
D404	8-719-400-18	DIODE	MA152WK
D405	8-719-400-18	DIODE	MA152WK
D501	8-719-400-18	DIODE	MA152WK
D601	8-719-800-76	DIODE	1SS226
D602	8-719-400-18	DIODE	MA152WK
D603	8-719-400-18	DIODE	MA152WK
D604	8-719-400-18	DIODE	MA152WK
D605	8-719-400-18	DIODE	MA152WK
D801	8-719-400-18	DIODE	MA152WK
D802	8-719-400-18	DIODE	MA152WK
D804	8-719-400-18	DIODE	MA152WK
D821	8-719-400-18	DIODE	MA152WK
D822	8-719-800-76	DIODE	1SS226
D823	8-719-800-76	DIODE	1SS226
D901	8-719-400-18	DIODE	MA152WK

< IC >

IC101	8-759-233-94	IC	TA8607F
IC102	8-759-925-60	IC	BA401
IC301	8-752-002-99	IC	CX20030
IC401	8-752-031-01	IC	CXA1047M
IC501	8-752-003-12	IC	CX20031
IC601	8-759-924-94	IC	CX22021
IC602	8-752-003-22	IC	CX20032
IC603	8-752-305-47	IC	CX23054
IC604	8-759-009-51	IC	MC14538BF
IC702	8-759-012-00	IC	MC10H116M
IC703	8-752-006-12	IC	CX20061
IC801	8-759-202-67	IC	CX20117
IC901	8-759-925-74	IC	SN74HC04ANS
IC902	8-759-925-74	IC	SN74HC04ANS

< TRANSISTOR >

Q101	8-729-200-86	TRANSISTOR	2SC271
Q102	8-729-901-04	TRANSISTOR	DTA114
Q103	8-729-200-86	TRANSISTOR	2SC271
Q104	8-729-901-01	TRANSISTOR	DTC144
Q105	8-729-904-07	TRANSISTOR	FMG2-T
Q107	8-729-201-27	TRANSISTOR	2SC271
Q110	8-729-901-01	TRANSISTOR	DTC144
Q111	8-729-200-86	TRANSISTOR	2SC271
Q112	8-729-901-01	TRANSISTOR	DTC144
Q113	8-729-200-86	TRANSISTOR	2SC271
Q116	8-729-201-27	TRANSISTOR	2SC271
Q117	8-729-200-86	TRANSISTOR	2SC271
Q118	8-729-200-86	TRANSISTOR	2SC271
Q119	8-729-200-86	TRANSISTOR	2SC271
Q120	8-729-200-86	TRANSISTOR	2SC271
Q121	8-729-201-27	TRANSISTOR	2SC271
Q122	8-729-901-01	TRANSISTOR	DTC144
Q123	8-729-901-01	TRANSISTOR	DTC144
Q124	8-729-901-06	TRANSISTOR	DTA144
Q125	8-729-901-01	TRANSISTOR	DTC144
Q126	8-729-201-27	TRANSISTOR	2SC271
Q127	8-729-201-27	TRANSISTOR	2SC271
Q128	8-729-202-38	TRANSISTOR	2SC332
Q129	8-729-201-27	TRANSISTOR	2SC271
Q130	8-729-201-27	TRANSISTOR	2SC271
Q131	8-729-216-22	TRANSISTOR	2SA116
Q132	8-729-201-27	TRANSISTOR	2SC271
Q181	8-729-907-46	TRANSISTOR	IMZ1
Q182	8-729-903-10	TRANSISTOR	FMW1
Q183	8-729-200-86	TRANSISTOR	2SC271

VIDEO VIDEO

Q184	8-729-216-22	TRANSISTOR	2SA1162
Q209	8-729-200-86	TRANSISTOR	2SC2714-0
Q210	8-729-200-86	TRANSISTOR	2SC2714-0
Q211	8-729-200-86	TRANSISTOR	2SC2714-0
Q212	8-729-901-01	TRANSISTOR	DTC144EK
Q213	8-729-901-06	TRANSISTOR	DTA144EK
Q214	8-729-200-86	TRANSISTOR	2SC2714-0
Q215	8-729-902-96	TRANSISTOR	FMS1
Q217	8-729-200-86	TRANSISTOR	2SC2714-0
Q218	8-729-200-86	TRANSISTOR	2SC2714-0
Q301	8-729-201-27	TRANSISTOR	2SC2715-Y
Q302	8-729-201-27	TRANSISTOR	2SC2715-Y
Q305	8-729-201-27	TRANSISTOR	2SC2715-Y
Q306	8-729-201-27	TRANSISTOR	2SC2715-Y
Q307	8-729-201-27	TRANSISTOR	2SC2715-Y
Q309	8-729-201-27	TRANSISTOR	2SC2715-Y
Q310	8-729-201-27	TRANSISTOR	2SC2715-Y
Q311	8-729-201-27	TRANSISTOR	2SC2715-Y
Q312	8-729-901-06	TRANSISTOR	DTA144EK
Q313	8-729-216-22	TRANSISTOR	2SA1162
Q314	8-729-201-27	TRANSISTOR	2SC2715-Y
Q315	8-729-201-27	TRANSISTOR	2SC2715-Y
Q316	8-729-901-01	TRANSISTOR	DTC144EK
Q317	8-729-201-27	TRANSISTOR	2SC2715-Y
Q318	8-729-901-06	TRANSISTOR	DTA144EK
Q319	8-729-201-27	TRANSISTOR	2SC2715-Y
Q320	8-729-901-01	TRANSISTOR	DTC144EK
Q321	8-729-901-01	TRANSISTOR	DTC144EK
Q322	8-729-216-22	TRANSISTOR	2SA1162
Q323	8-729-901-01	TRANSISTOR	DTC144EK
Q324	8-729-901-01	TRANSISTOR	DTC144EK
Q325	8-729-901-06	TRANSISTOR	DTA144EK
Q326	8-729-901-06	TRANSISTOR	DTA144EK
Q327	8-729-201-27	TRANSISTOR	2SC2715-Y
Q328	8-729-201-27	TRANSISTOR	2SC2715-Y
Q330	8-729-901-06	TRANSISTOR	DTA144EK
Q389	8-729-201-27	TRANSISTOR	2SC2715-Y
Q401	8-729-201-27	TRANSISTOR	2SC2715-Y
Q402	8-729-201-27	TRANSISTOR	2SC2715-Y
Q403	8-729-901-01	TRANSISTOR	DTC144EK
Q404	8-729-901-01	TRANSI	
Q405	8-729-901-06	TRANSI	
Q406	8-729-201-27	TRANSI	
Q407	8-729-216-22	TRANSI	
Q408	8-729-216-22	TRANSI	
Q409	8-729-201-27	TRANSI	
Q410	8-729-216-22	TRANSI	
Q411	8-729-901-01	TRANSI	
Q412	8-729-901-01	TRANSI	
Q413	8-729-901-01	TRANSI	

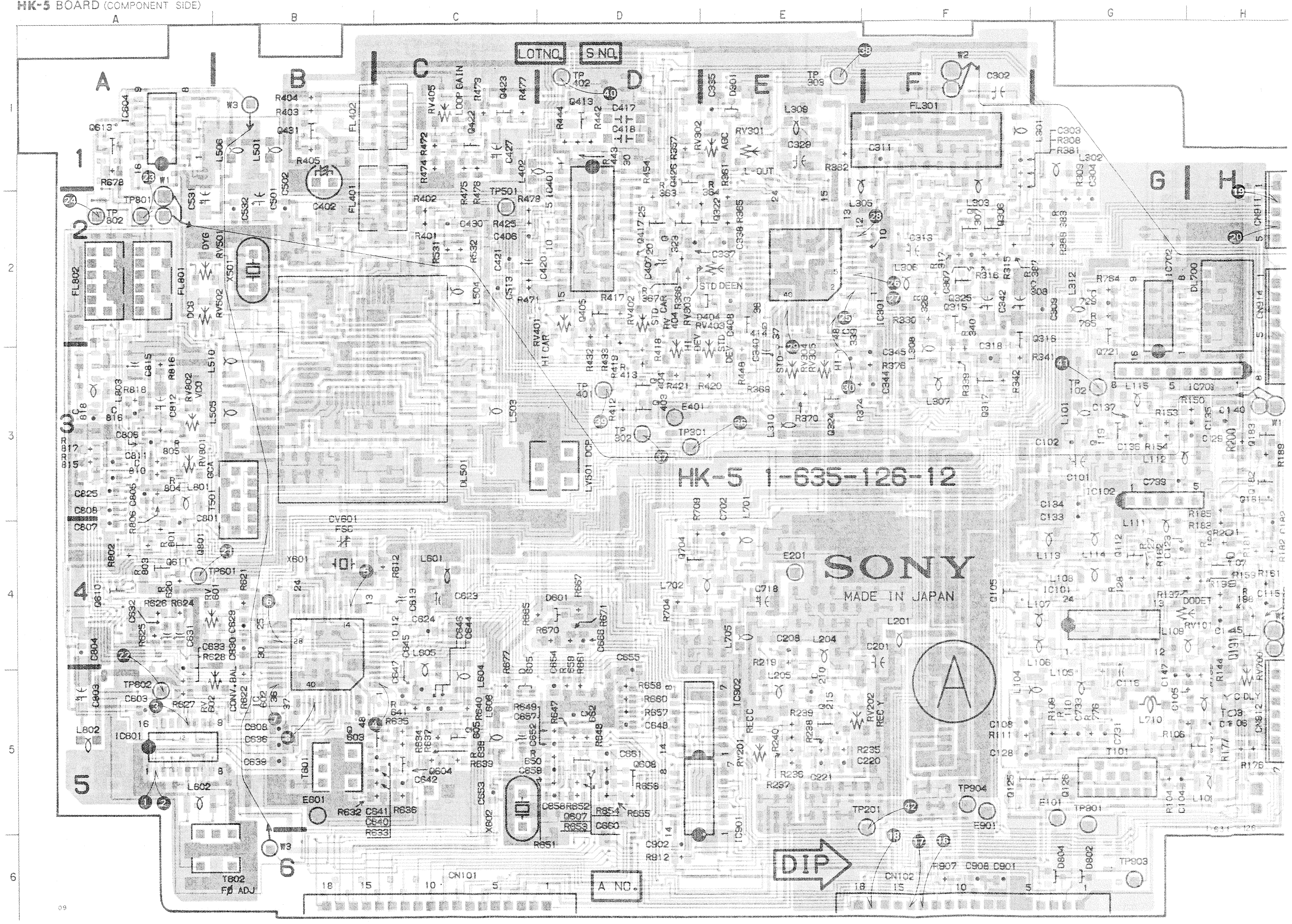
HK-5 (CHROMA SIGNAL PROCESS, Y SIGNAL PROCESS, Y/C/AFM MIX) PRINTED WIRING BOARD

— Ref. No. HK-5 BOARD: 4000 series —

HK-5 BOARD (COMPONENT SIDE)	
D301	E-1
D404	E-2
D601	D-4
D605	C-5
D802	G-6
D804	G-6
IC101	G-4
IC102	G-3
IC301	F-2
IC401	D-1
IC601	A-5
IC602	B-5
IC702	G-2
IC703	H-3
IC901	E-5
IC902	E-5
Q101	H-5
Q105	F-4
Q107	H-4
Q112	G-4
Q119	G-3
Q125	F-5
Q126	G-5
Q131	H-4
Q181	H-3
Q182	H-3
Q215	E-5
Q306	F-2
Q307	F-2
Q315	F-2
Q316	G-2
Q317	F-3
Q322	E-2
Q323	D-2
Q324	E-3
Q325	F-2
Q403	D-3
Q404	D-3
Q405	D-2
Q413	D-1
Q414	E-2
Q417	D-2
Q422	C-1
Q423	C-1
Q426	D-1
Q431	B-1
Q603	B-5
Q604	C-5
Q605	C-5
Q607	D-5
Q608	D-5
Q610	A-4
Q611	A-4
Q704	D-4
Q721	G-3
Q801	A-4

HK-5 BOARD (CONDUCTOR SIDE)	
D101	F-4
D102	F-4
D105	G-3
D106	G-4
D107	F-4
D108	G-3
D109	H-4
D302	E-1
D401	D-2
D402	D-1
D403	D-1
D405	D-2
D501	C-2
D602	D-5
D603	A-1
D604	A-1
D801	C-5
D821	A-3
D822	A-3
D901	G-6
IC501	C-3
IC603	C-5
IC801	A-4
Q102	F-5
Q103	G-5
Q104	G-4
Q110	G-4
Q111	G-4
Q113	H-4
Q116	F-4
Q117	G-3
Q118	F-3
Q120	G-3
Q121	H-3
Q122	G-4
Q123	G-4
Q127	G-5
Q128	H-5
Q129	H-4
Q130	H-4
Q132	H-5
Q183	H-3
Q184	H-3
Q209	E-4
Q210	F-5
Q211	F-5
Q212	F-4
Q213	E-5
Q214	E-5
Q217	E-5
Q218	F-5
Q301	E-1
Q302	G-1
Q305	G-1
Q309	F-1
Q310	G-2
Q311	F-3
Q312	F-3
Q313	F-3
Q314	F-2
Q318	F-2
Q319	E-1
Q320	E-1
Q321	E-2
Q326	G-3
Q327	F-2
Q328	G-2
Q330	E-3
Q389	F-2
Q401	B-1
Q402	C-1
Q406	D-3
Q407	D-2
Q408	D-2
Q409	D-3
Q410	D-3
Q411	E-3
Q412	E-3
Q415	D-2
Q416	D-2
Q418	D-1
Q419	D-2
Q420	D-1
Q421	D-1
Q424	D-2
Q425	E-3
Q427	C-1
Q428	C-1
Q429	C-1
Q430	C-1
Q501	C-2
Q502	C-1
Q503	C-2
Q504	B-3
Q601	B-5
Q606	C-5
Q609	A-4
Q612	A-1
Q613	A-1
Q701	D-3
Q702	D-3
Q703	D-4
Q706	E-3
Q707	E-4
Q710	D-4
Q711	D-4
Q712	D-5
Q720	G-2
Q722	G-5
Q723	G-5
Q724	G-5
Q802	A-4
Q803	A-3
Q804	A-3
Q805	A-2
Q811	C-5
Q901	F-6
Q902	F-6
Q903	F-5
Q904	F-5

HK-5 BOARD (COMPONENT SIDE)

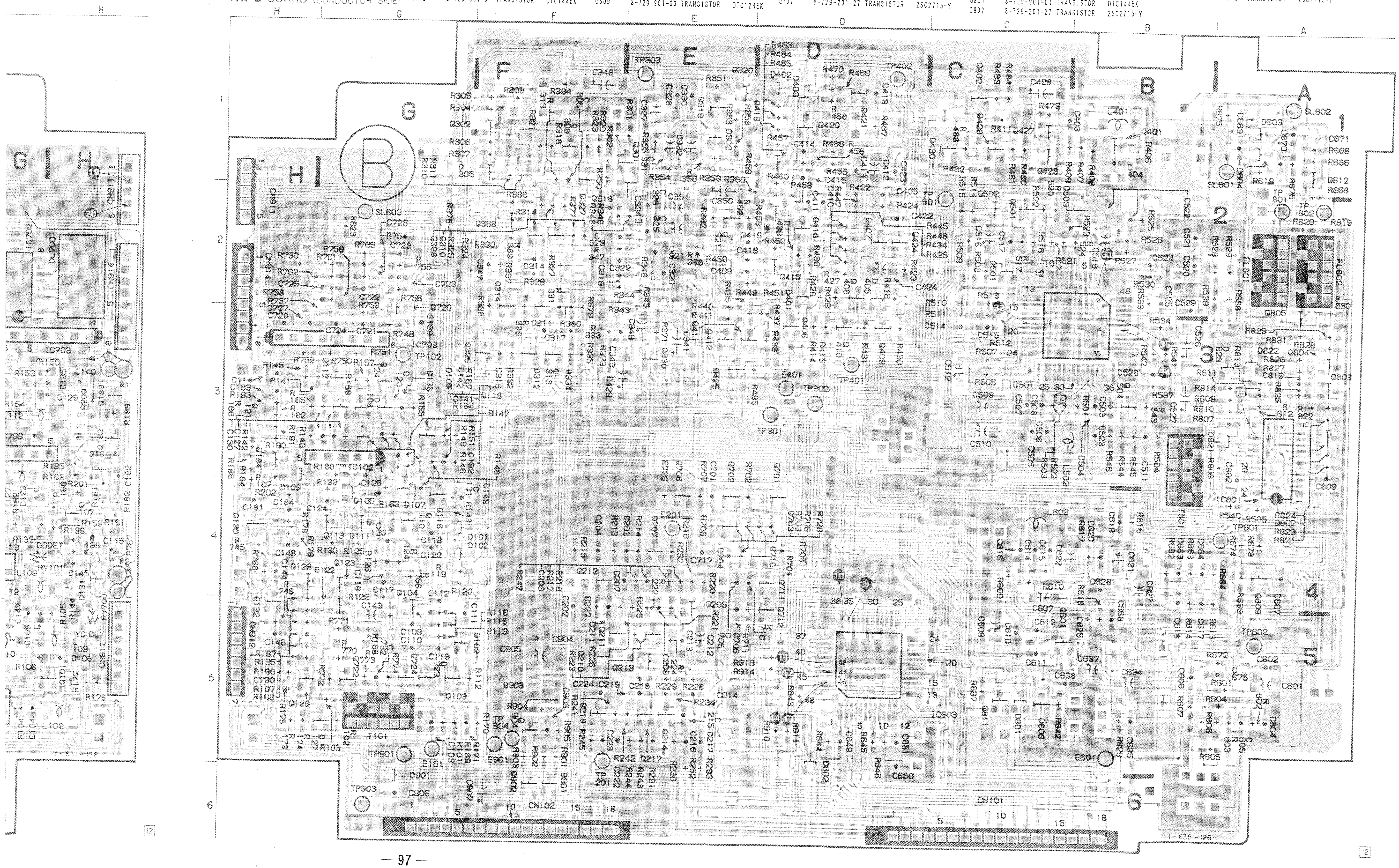


4EK
4EK
4EK
15-Y
15-Y

4EK
15-Y
15-Y
15-Y
EK

Q404	8-729-901-01	TRANSISTOR	DTC144EK
Q405	8-729-901-06	TRANSISTOR	DTA144EK
Q406	8-729-201-27	TRANSISTOR	2SC2715-Y
Q407	8-729-216-22	TRANSISTOR	2SA1162
Q408	8-729-216-22	TRANSISTOR	2SA1162
Q409	8-729-201-27	TRANSISTOR	2SC2715-Y
Q410	8-729-216-22	TRANSISTOR	2SA1162
Q411	8-729-901-01	TRANSISTOR	DTC144EK
Q412	8-729-901-01	TRANSISTOR	DTC144EK
Q413	8-729-901-01	TRANSISTOR	DTC144EK
Q414	8-729-201-27	TRANSISTOR	2SC2715-Y
Q415	8-729-216-22	TRANSISTOR	2SA1162
Q416	8-729-216-22	TRANSISTOR	2SA1162
Q417	8-729-901-01	TRANSISTOR	DTC144EK
Q418	8-729-201-27	TRANSISTOR	2SC2715-Y
Q419	8-729-201-27	TRANSISTOR	2SC2715-Y
Q420	8-729-202-38	TRANSISTOR	2SC3326N
Q421	8-729-202-38	TRANSISTOR	2SC3326N
Q422	8-729-201-27	TRANSISTOR	2SC2715-Y
Q423	8-729-201-27	TRANSISTOR	2SC2715-Y
Q424	8-729-901-01	TRANSISTOR	DTC144EK
Q425	8-729-201-27	TRANSISTOR	2SC2715-Y
Q426	8-729-201-27	TRANSISTOR	2SC2715-Y
Q427	8-729-216-22	TRANSISTOR	2SA1162
Q428	8-729-216-22	TRANSISTOR	2SA1162
Q429	8-729-901-01	TRANSISTOR	DTC144EK
Q430	8-729-901-01	TRANSISTOR	DTC144EK
Q431	8-729-216-22	TRANSISTOR	2SA1162
Q501	8-729-901-06	TRANSISTOR	DTA144EK
Q502	8-729-901-01	TRANSISTOR	DTC144EK
Q503	8-729-901-00	TRANSISTOR	DTC124EK
Q504	8-729-201-27	TRANSISTOR	2SC2715-Y
Q601	8-729-901-01	TRANSISTOR	DTC144EK
Q603	8-729-901-01	TRANSISTOR	DTC144EK
Q604	8-729-201-27	TRANSISTOR	2SC2715-Y
Q605	8-729-201-27	TRANSISTOR	2SC2715-Y
Q606	8-729-901-01	TRANSISTOR	DTC144EK
Q607	8-729-201-27	TRANSISTOR	2SC2715-Y
Q608	8-729-216-22	TRANSISTOR	2SA1162
Q609	8-729-901-00	TRANSISTOR	DTC124EK
Q610	8-729-904-04	TRANSISTOR	FMS2-T-149
Q611	8-729-201-27	TRANSISTOR	2SC2715-Y
Q612	8-729-201-27	TRANSISTOR	2SC2715-Y
Q613	8-729-901-01	TRANSISTOR	DTC144EK
Q701	8-729-201-27	TRANSISTOR	2SC2715-Y
Q702	8-729-202-38	TRANSISTOR	2SC3326N
Q703	8-729-202-38	TRANSISTOR	2SC3326N
Q704	8-729-216-22	TRANSISTOR	2SA1162
Q706	8-729-201-27	TRANSISTOR	2SC2715-Y
Q707	8-729-201-27	TRANSISTOR	2SC2715-Y
Q710	8-729-901-01	TRANSISTOR	DTC144EK
Q711	8-729-901-01	TRANSISTOR	DTC144EK
Q712	8-729-901-01	TRANSISTOR	DTC144EK
Q720	8-729-200-86	TRANSISTOR	2SC2714-0
Q721	8-729-200-86	TRANSISTOR	2SC2714-0
Q722	8-729-200-86	TRANSISTOR	2SC2714-0
Q723	8-729-201-27	TRANSISTOR	2SC2715-Y
Q724	8-729-901-01	TRANSISTOR	DTC144EK
Q801	8-729-901-01	TRANSISTOR	DTC144EK
Q802	8-729-201-27	TRANSISTOR	2SC2715-Y
Q803	8-729-201-27	TRANSISTOR	2SC2715-Y
Q804	8-729-201-27	TRANSISTOR	2SC2715-Y
Q805	8-729-216-22	TRANSISTOR	2SA1162
Q811	8-729-901-01	TRANSISTOR	DTC144EK
Q901	8-729-901-01	TRANSISTOR	DTC144EK
Q902	8-729-901-01	TRANSISTOR	DTC144EK
Q903	8-729-104-25	TRANSISTOR	2SB804-AV
Q904	8-729-201-27	TRANSISTOR	2SC2715-Y

HK-5 BOARD (CONDUCTOR SIDE)



HK-5 (CHROMA SIGNAL PROCESS, Y SIGNAL PROCESS, Y/C/AFM MIX) PRINTED WIRING BOARD

— Ref. No. HK-5 BOARD: 4000 series —

HK-5 BOARD (COMPONENT SIDE)	
D301	E-1
D404	E-2
D601	D-4
D605	C-5
D802	G-6
D804	G-6
IC101	G-4
IC102	G-3
IC301	F-2
IC401	D-1
IC601	A-5
IC602	B-5
IC702	G-2
IC703	H-3
IC901	E-5
IC902	E-5
Q101	H-5
Q105	F-4
Q107	H-4
Q112	G-4
Q119	G-3
Q125	F-5
Q126	G-5
Q131	H-4
Q181	H-3
Q182	H-3
Q215	E-5
Q306	F-2
Q307	F-2
Q315	F-2
Q316	G-2
Q317	F-3
Q322	E-2
Q323	D-2
Q324	E-3
Q325	F-2
Q403	D-3
Q404	D-3
Q405	D-2
Q413	D-1
Q414	E-2
Q417	D-2
Q422	C-1
Q423	C-1
Q426	D-1
Q431	B-1
Q603	B-5
Q604	C-5
Q605	C-5
Q607	D-5
Q608	D-5
Q610	A-4
Q611	A-4
Q704	D-4
Q721	G-3
Q801	A-4

HK-5 BOARD (CONDUCTOR SIDE)	
D101	F-4
D102	F-4
D105	G-3
D106	G-4
D107	F-4
D108	G-3
D109	H-4
D302	E-1
D401	D-2
D402	D-1
D403	D-1
D405	D-2
D501	C-2
D602	D-5
D603	A-1
D604	A-1
D801	C-5
D821	A-3
D822	A-3
D901	G-6
IC501	C-3
IC603	C-5
IC801	A-4
Q102	F-5
Q103	G-5
Q104	G-4
Q110	G-4
Q111	G-4
Q113	H-4
Q116	F-4
Q117	G-3
Q118	F-3
Q120	G-3
Q121	H-3
Q122	G-4
Q123	G-4
Q127	G-5
Q128	H-5
Q129	H-4
Q130	H-4
Q132	H-5
Q183	H-3
Q184	H-3
Q209	E-4
Q210	F-5
Q211	F-5
Q212	F-4
Q213	E-5
Q214	E-5
Q217	E-5
Q218	F-5
Q301	E-1
Q302	G-1
Q305	G-1
Q309	F-1
Q310	G-2
Q311	F-3
Q312	F-3
Q313	F-3
Q314	F-2
Q318	F-2
Q319	E-1
Q320	E-1
Q321	E-2
Q326	G-3
Q327	F-2
Q328	G-2
Q330	E-3
Q389	F-2
Q401	B-1
Q402	C-1
Q406	D-3
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Q408	D-2
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Q410	D-3
Q411	E-3
Q412	E-3
Q415	D-2
Q416	D-2
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Q420	D-1
Q421	D-1
Q424	D-2
Q425	E-3
Q427	C-1
Q428	C-1
Q429	C-1
Q430	C-1
Q501	C-2
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Q504	B-3
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Q802	A-4
Q803	A-3
Q804	A-3
Q805	A-2
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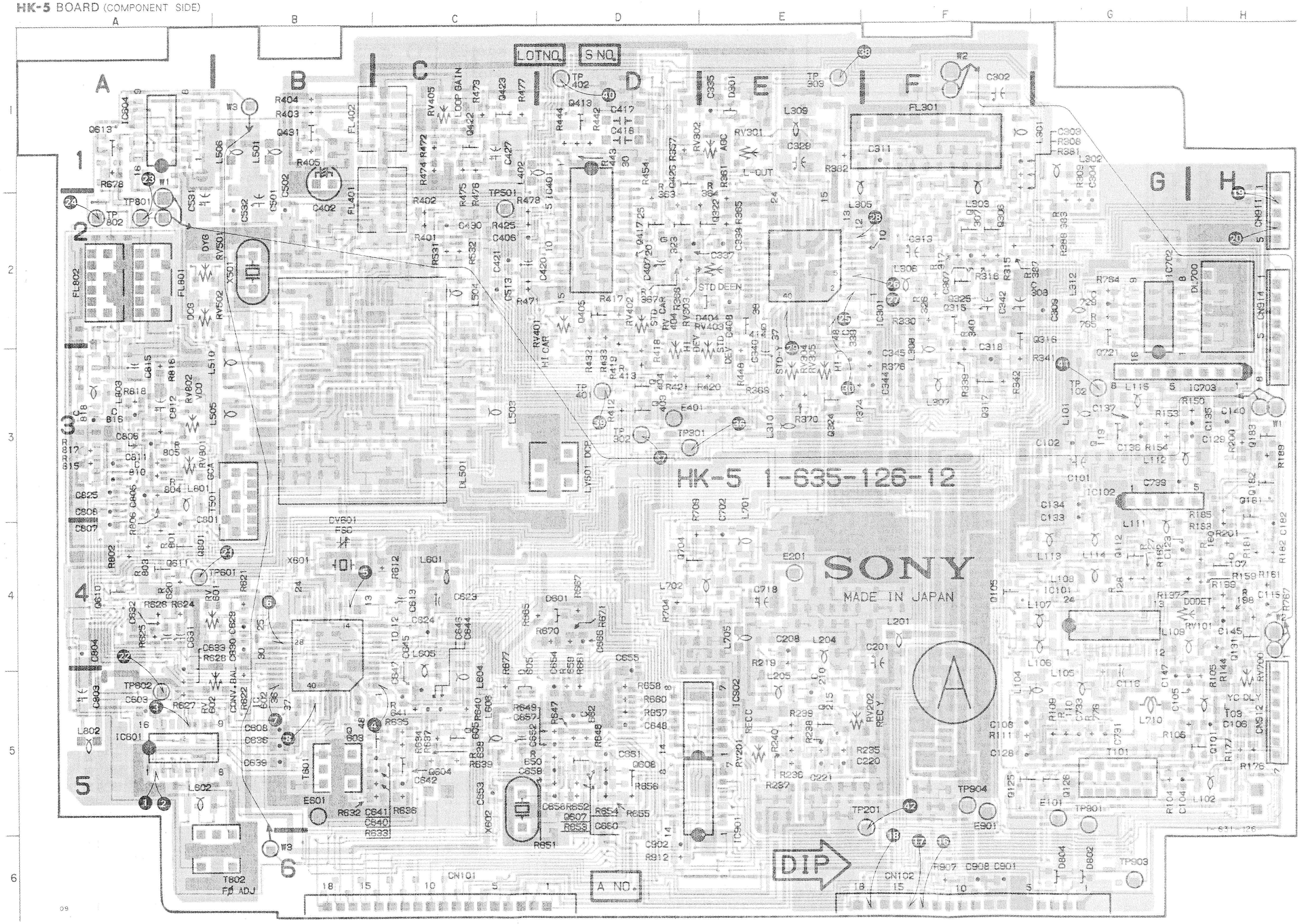
Q903	F-5
Q904	F-5

HK-5 BOARD (COMPONENT SIDE)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HK-5 1-635-126-12
SONY
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DIP
A NO.
CN101
CN102
T802
FØ ADJ
RV301 AGC
RV401 H1 CAR
RV802 VCO
RV202 REC Y
RV700 YC DLY
IC301
IC401
IC601
IC602
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IC703
IC901
IC902
FL301
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FL802
DL501
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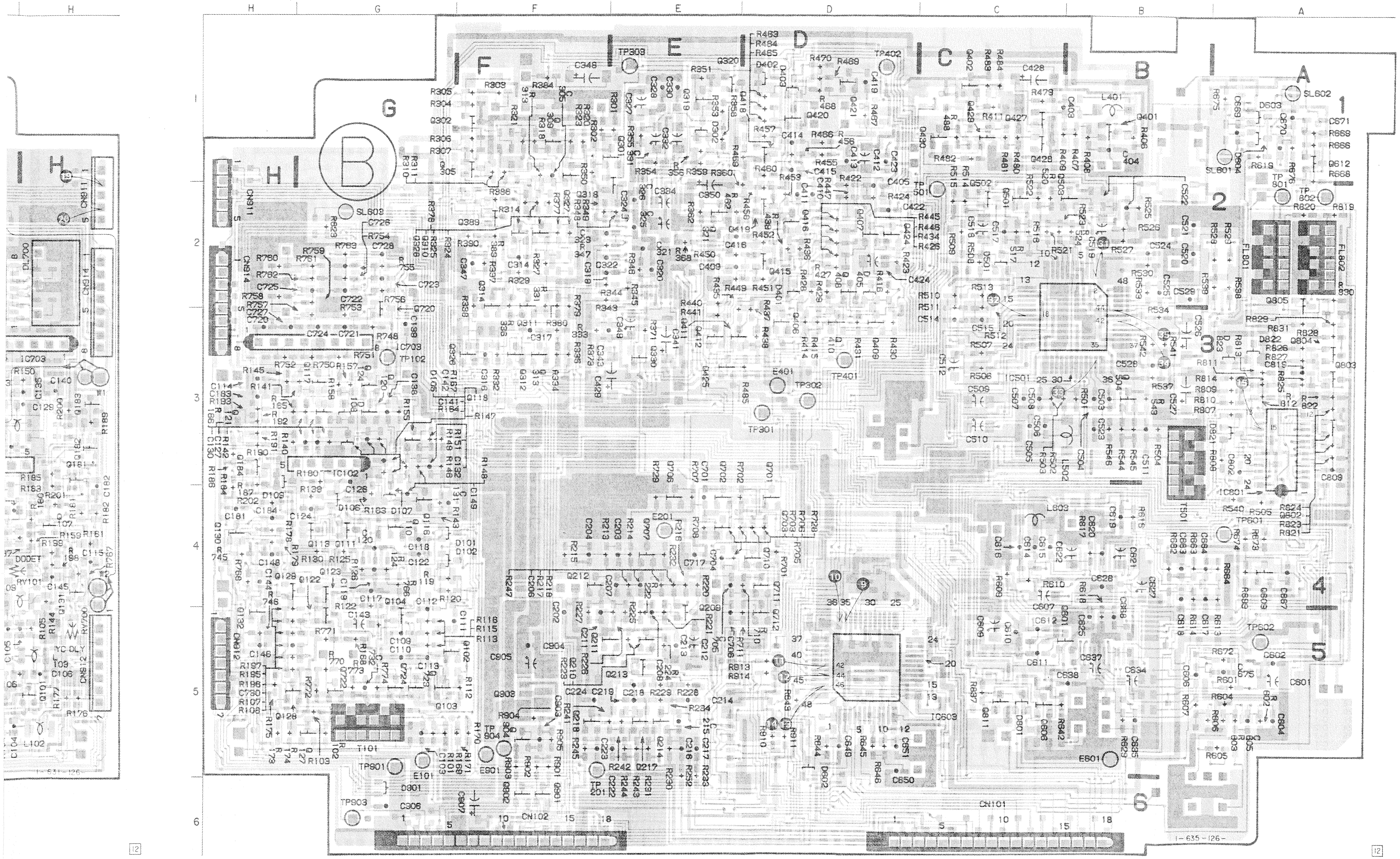
VIDEO VIDEO

HK-5 BOARD (CONDUCTOR SIDE)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FL801
FL802
DL700
T101
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TP801
TP802
TP901
TP903
TP904
TP201
SL601
SL602
SL603
E101
E201
E401
E601
E901
L401
L502
L603
1-635-126-

HK-5 BOARD, COMPLETE
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< DIODE >

D101	8-719-400-18	DIODE	MA152WK
D102	8-719-400-18	DIODE	MA152WK
D105	8-719-800-76	DIODE	1SS226
D106	8-719-400-18	DIODE	MA152WK
D107	8-719-400-18	DIODE	MA152WK
D108	8-719-400-18	DIODE	MA152WK
D109	8-719-400-18	DIODE	MA152WK
D301	8-719-400-18	DIODE	MA152WK
D302	8-719-400-18	DIODE	MA152WK
D401	8-719-400-18	DIODE	MA152WK
D402	8-719-400-18	DIODE	MA152WK
D403	8-719-400-18	DIODE	MA152WK
D404	8-719-400-18	DIODE	MA152WK
D405	8-719-400-18	DIODE	MA152WK
D501	8-719-400-18	DIODE	MA152WK
D601	8-719-800-76	DIODE	1SS226
D602	8-719-400-18	DIODE	MA152WK
D603	8-719-400-18	DIODE	MA152WK
D604	8-719-400-18	DIODE	MA152WK
D605	8-719-400-18	DIODE	MA152WK
D801	8-719-400-18	DIODE	MA152WK
D802	8-719-400-18	DIODE	MA152WK
D804	8-719-400-18	DIODE	MA152WK
D821	8-719-400-18	DIODE	MA152WK
D822	8-719-800-76	DIODE	1SS226
D823	8-719-800-76	DIODE	1SS226
D901	8-719-400-18	DIODE	MA152WK

< IC >

IC101	8-759-233-94	IC	TA8607F
IC102	8-759-925-60	IC	BA401
IC301	8-752-002-99	IC	CX20030
IC401	8-752-031-01	IC	CXA1047M
IC501	8-752-003-12	IC	CX20031
IC601	8-759-924-94	IC	CX22021
IC602	8-752-003-22	IC	CX20032
IC603	8-752-305-47	IC	CX23054
IC604	8-759-009-51	IC	MC14538BF
IC702	8-759-012-00	IC	MC10H116M
IC703	8-752-006-12	IC	CX20061
IC801	8-759-202-67	IC	CX20117
IC901	8-759-925-74	IC	SN74HC04ANS
IC902	8-759-925-74	IC	SN74HC04ANS

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Q102	8-729-901-04	TRANSISTOR	DTA114EK
Q103	8-729-200-86	TRANSISTOR	2SC2714-0
Q104	8-729-901-01	TRANSISTOR	DTC144EK
Q105	8-729-904-07	TRANSISTOR	FMG2-T-148
Q107	8-729-201-27	TRANSISTOR	2SC2715-Y
Q110	8-729-901-01	TRANSISTOR	DTC144EK
Q111	8-729-200-86	TRANSISTOR	2SC2714-0
Q112	8-729-901-01	TRANSISTOR	DTC144EK
Q113	8-729-200-86	TRANSISTOR	2SC2714-0
Q116	8-729-201-27	TRANSISTOR	2SC2715-Y
Q117	8-729-200-86	TRANSISTOR	2SC2714-0
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Q122	8-729-901-01	TRANSISTOR	DTC144EK
Q123	8-729-901-01	TRANSISTOR	DTC144EK
Q124	8-729-901-06	TRANSISTOR	DTA144EK
Q125	8-729-901-01	TRANSISTOR	DTC144EK
Q126	8-729-201-27	TRANSISTOR	2SC2715-Y
Q127	8-729-201-27	TRANSISTOR	2SC2715-Y
Q128	8-729-202-38	TRANSISTOR	2SC3326N
Q129	8-729-201-27	TRANSISTOR	2SC2715-Y
Q130	8-729-201-27	TRANSISTOR	2SC2715-Y
Q131	8-729-216-22	TRANSISTOR	2SA1162
Q132	8-729-201-27	TRANSISTOR	2SC2715-Y
Q181	8-729-907-46	TRANSISTOR	IMZ1
Q182	8-729-903-10	TRANSISTOR	FMW1
Q183	8-729-200-86	TRANSISTOR	2SC2714-0
Q184	8-729-216-22	TRANSISTOR	2SA1162
Q209	8-729-200-86	TRANSISTOR	2SC2714-0
Q210	8-729-200-86	TRANSISTOR	2SC2714-0
Q211	8-729-200-86	TRANSISTOR	2SC2714-0
Q212	8-729-901-01	TRANSISTOR	DTC144EK
Q213	8-729-901-06	TRANSISTOR	DTA144EK
Q214	8-729-200-86	TRANSISTOR	2SC2714-0
Q215	8-729-902-96	TRANSISTOR	FMS1
Q217	8-729-200-86	TRANSISTOR	2SC2714-0
Q218	8-729-200-86	TRANSISTOR	2SC2714-0
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Q314	8-729-201-27	TRANSISTOR	2SC2715-Y
Q315	8-729-201-27	TRANSISTOR	2SC2715-Y
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Q318	8-729-901-06	TRANSISTOR	DTA144EK
Q319	8-729-201-27	TRANSISTOR	2SC2715-Y
Q320	8-729-901-01	TRANSISTOR	DTC144EK
Q321	8-729-901-01	TRANSISTOR	DTC144EK
Q322	8-729-216-22	TRANSISTOR	2SA1162
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Q327	8-729-201-27	TRANSISTOR	2SC2715-Y
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Q401	8-729-201-27	TRANSISTOR	2SC2715-Y
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Q403	8-729-901-01	TRANSISTOR	DTC144EK
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Q426	8-729-201-27	TRANSISTOR	2SC2715-Y
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Q428	8-729-216-22	TRANSISTOR	2SA1162
Q429	8-729-901-01	TRANSISTOR	DTC144EK
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Q503	8-729-901-00	TRANSISTOR	DTC124EK
Q504	8-729-201-27	TRANSISTOR	2SC2715-Y
Q601	8-729-901-01	TRANSISTOR	DTC144EK
Q603	8-729-901-01	TRANSISTOR	DTC144EK
Q604	8-729-201-27	TRANSISTOR	2SC2715-Y
Q605	8-729-201-27	TRANSISTOR	2SC2715-Y
Q606	8-729-901-01	TRANSISTOR	DTC144EK
Q607	8-729-201-27	TRANSISTOR	2SC2715-Y
Q608	8-729-216-22	TRANSISTOR	2SA1162
Q609	8-729-901-00	TRANSISTOR	DTC124EK
Q610	8-729-904-04	TRANSISTOR	FMS2-T-149
Q611	8-729-201-27	TRANSISTOR	2SC2715-Y
Q612	8-729-201-27	TRANSISTOR	2SC2715-Y
Q613	8-729-901-01	TRANSISTOR	DTC144EK
Q701	8-729-201-27	TRANSISTOR	2SC2715-Y
Q702	8-729-202-38	TRANSISTOR	2SC3326N
Q703	8-729-202-38	TRANSISTOR	2SC3326N
Q704	8-729-216-22	TRANSISTOR	2SA1162
Q706	8-729-201-27	TRANSISTOR	2SC2715-Y
Q707	8-729-201-27	TRANSISTOR	2SC2715-Y
Q710	8-729-901-01	TRANSISTOR	DTC144EK
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Q712	8-729-901-01	TRANSISTOR	DTC144EK
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Q722	8-729-200-86	TRANSISTOR	2SC2714-0
Q723	8-729-201-27	TRANSISTOR	2SC2715-Y
Q724	8-729-901-01	TRANSISTOR	DTC144EK
Q801	8-729-901-01	TRANSISTOR	DTC144EK
Q802	8-729-201-27	TRANSISTOR	2SC2715-Y
Q803	8-729-201-27	TRANSISTOR	2SC2715-Y
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Q811	8-729-901-01	TRANSISTOR	DTC144EK
Q901	8-729-901-01	TRANSISTOR	DTC144EK
Q902	8-729-901-01	TRANSISTOR	DTC144EK
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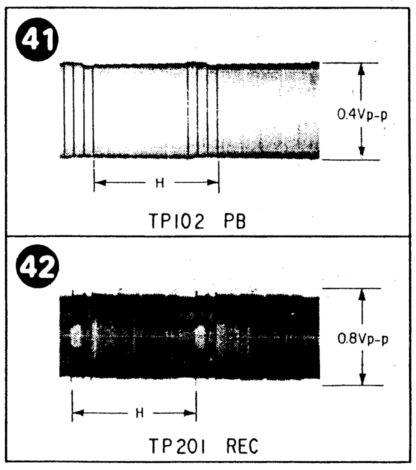
HK-5 BOARD (3/3)



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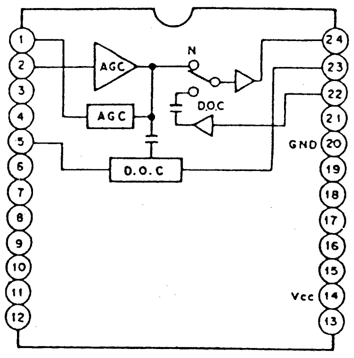

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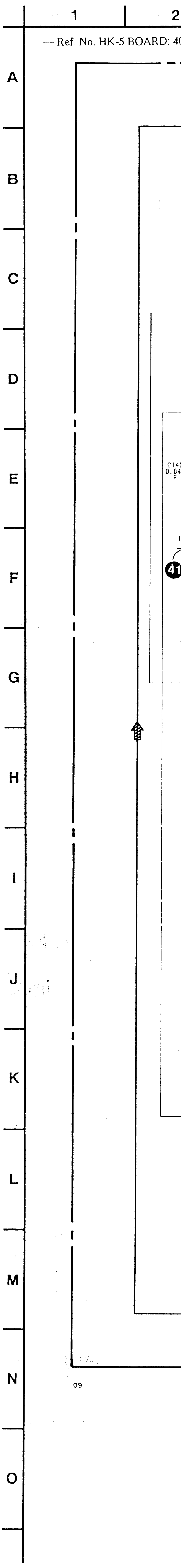
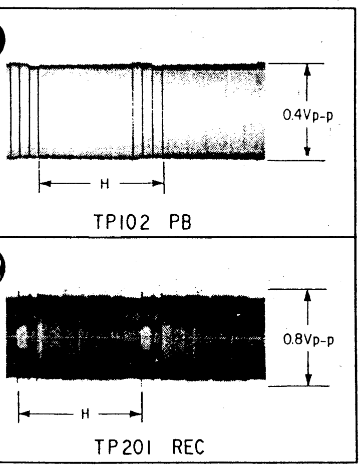


HK-5 (Y/C/AFM MIX) SCHEMATIC DIAGRAM

-5 BOARD (3/3)



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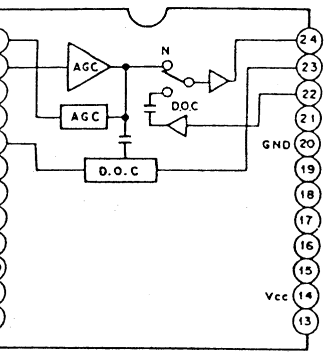
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RANSISTOR 2SC2715-Y
RANSISTOR DTC144EK

RANSISTOR 2SC2715-Y
RANSISTOR 2SC3326N
RANSISTOR 2SC3326N
RANSISTOR 2SA1162
RANSISTOR 2SC2715-Y
RANSISTOR 2SC2715-Y

RANSISTOR DTC144EK
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RANSISTOR DTC144EK
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RANSISTOR 2SC2715-Y

RANSISTOR 2SC2715-Y
RANSISTOR 2SC2715-Y
RANSISTOR 2SA1162
RANSISTOR DTC144EK
RANSISTOR DTC144EK

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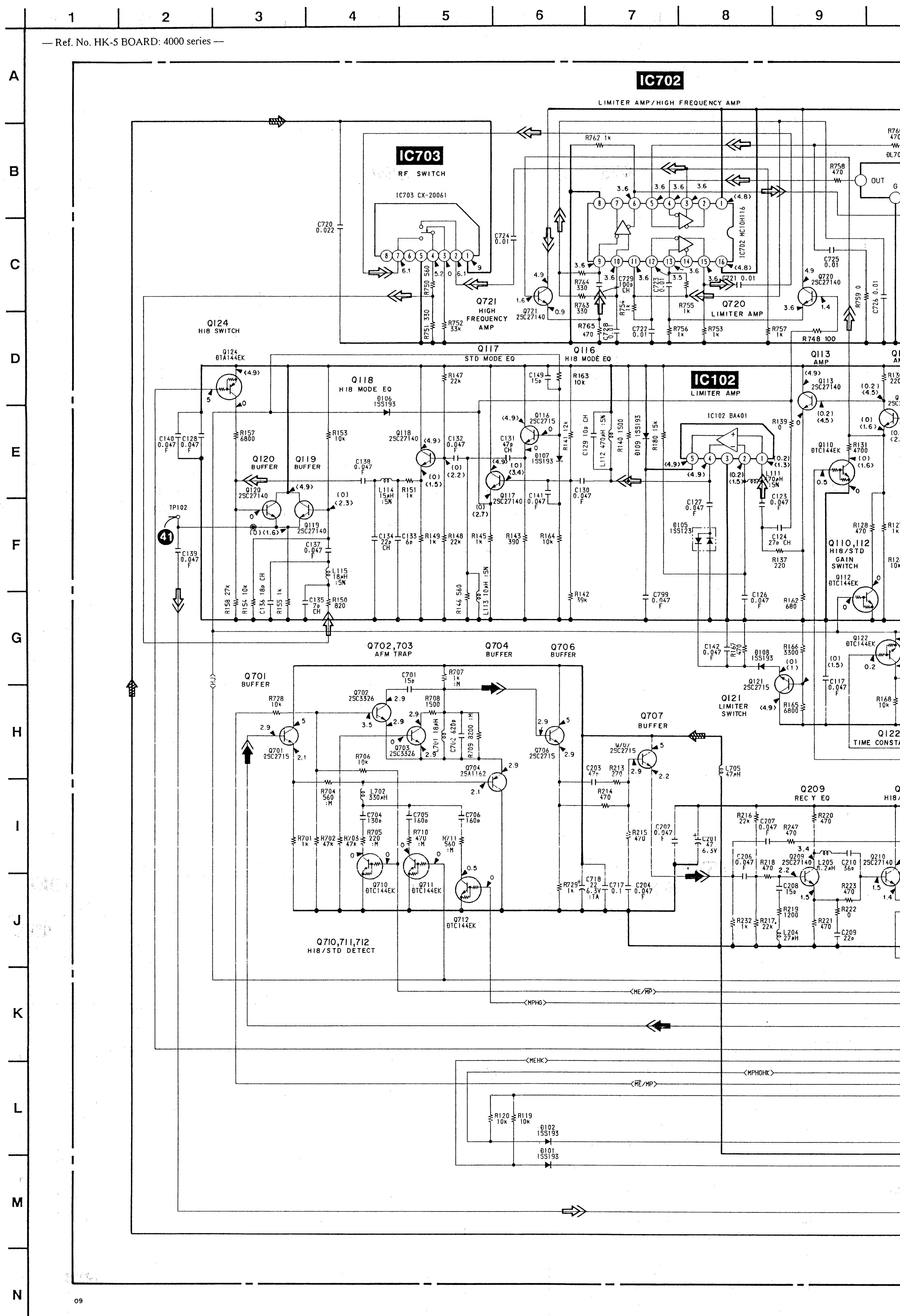
RANSISTOR 2SC2715-Y

— Ref. No. HK-5 BOARD: 4000 series —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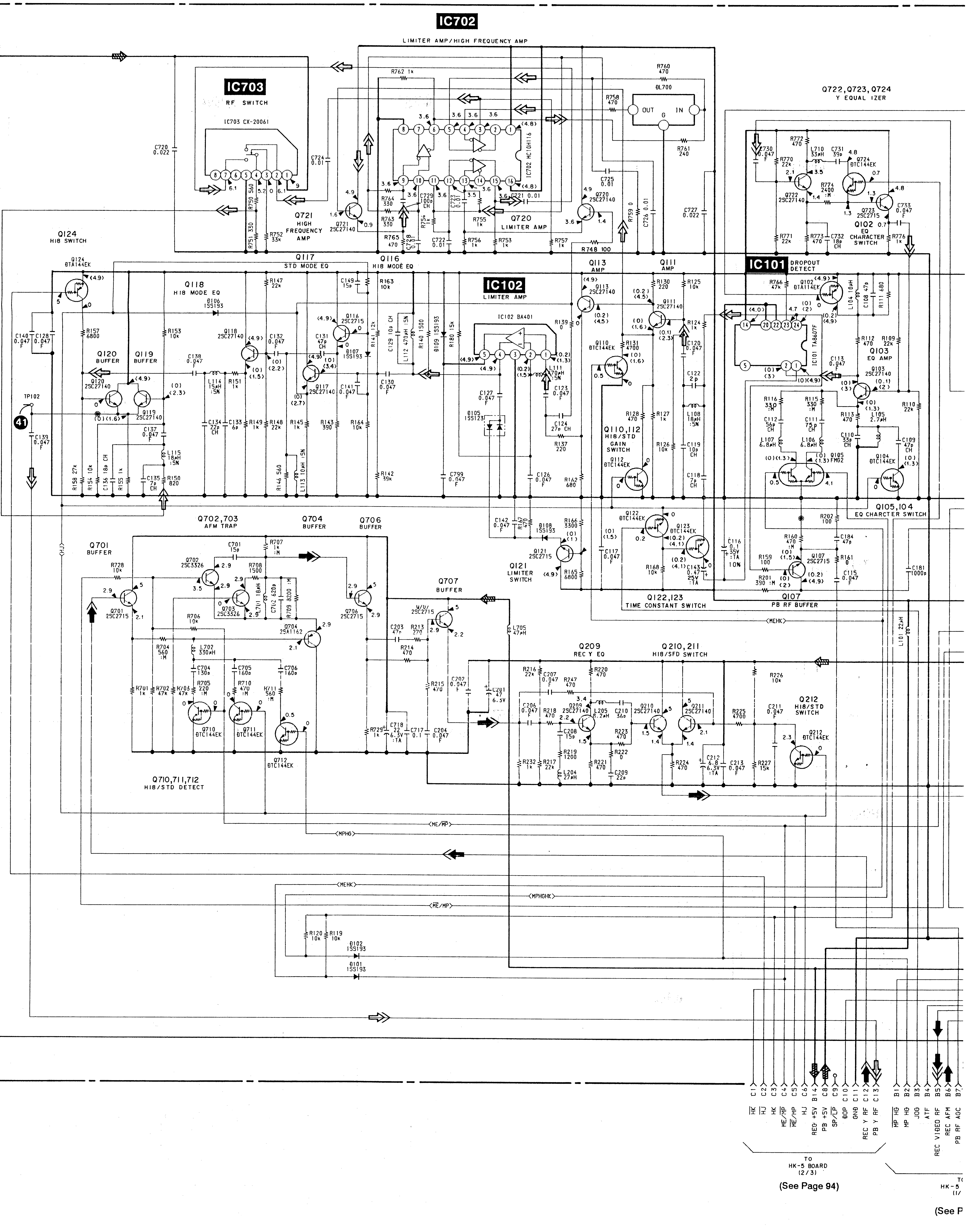
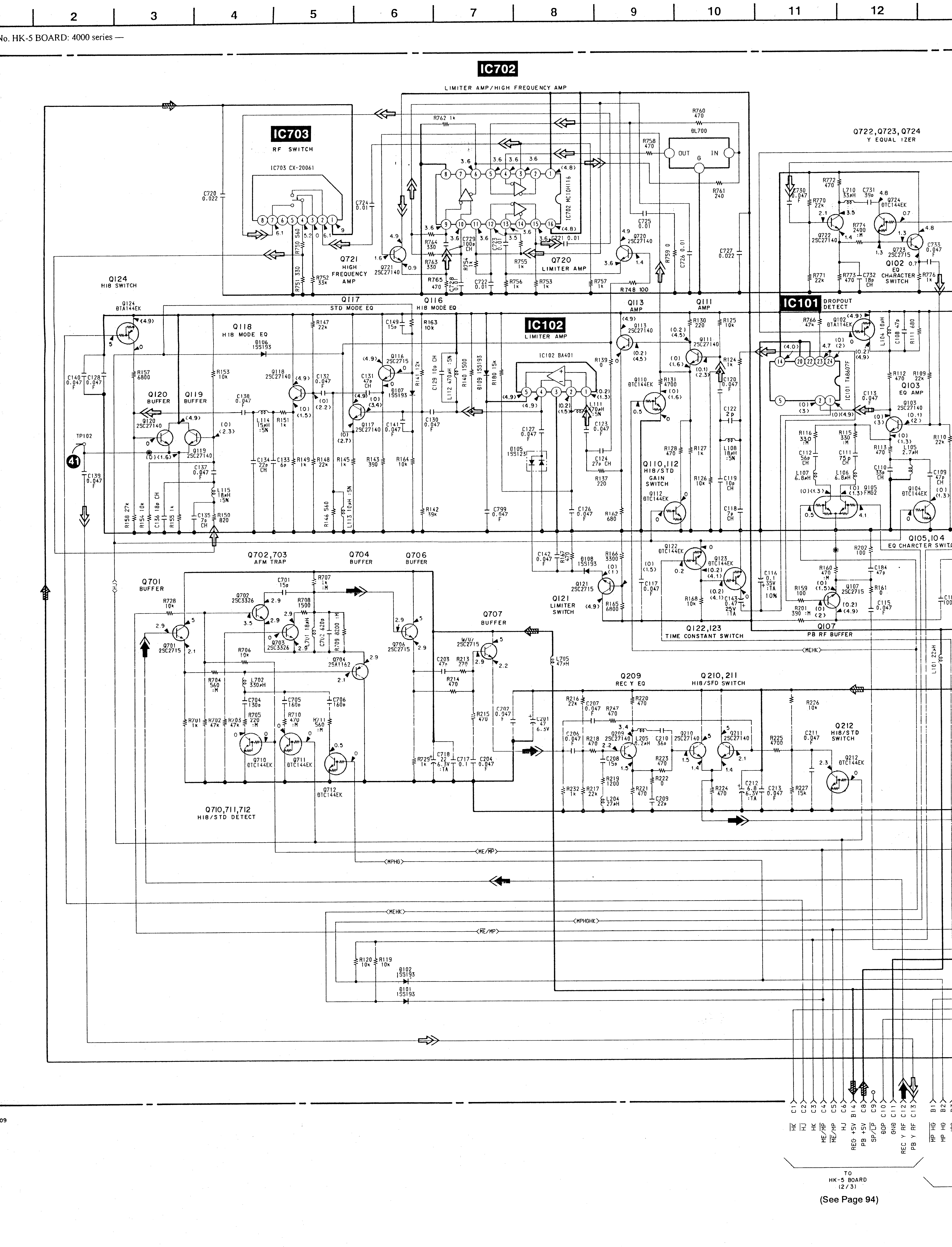
RF SWITCH
IC703 CX-20061
IC702 MC10H116
C720 0.022
C724 0.01
R762 1k
R758 470
OUT
R750 560
R751 330
R752 33k
Q721
HIGH FREQUENCY AMP
Q721 2SC27140
R764 330
R763 330
R765 470
C729 100p CH
C723 0.01
C722 0.01
C721 0.01
R754 1k
R755 1k
R756 1k
R753 1k
R757 1k
Q720
LIMITER AMP
Q720 2SC27140
C725 0.01
R759 0
C726 0.01
R748 100
Q124
H18 SWITCH
Q124 DTA144EK
Q117
STD MODE EQ
Q116
H18 MODE EQ
IC102
LIMITER AMP
IC102 BA401
Q118
H18 MODE EQ
D106 1SS193
R147 22k
C149 15p
R163 10k
Q116 2SC2715
Q118 2SC27140
C132 0.047
C131 47p CH
D107 1SS193
R141 12k
C129 10p CH
L112 470μH :5%
R140 1500
D109 1SS193
R180 15k
R139 0
L111 470μH :5%
C123 0.047
C127 0.047
D105 1SS123
C124 27p CH
R137 220
C126 0.047
R162 680
C140 0.047
C128 0.047
R157 6800
R153 10k
Q120
BUFFER
Q119
BUFFER
C138 0.047
Q120 2SC27140
Q119 2SC27140
L114 15μH :5%
R151 1k
Q117 2SC27140
C141 0.047
C130 0.047
TP102
41
C139 0.047
C137 0.047
L115 18μH :5%
C134 22p CH
C133 6p
R149 1k
R148 22k
R145 1k
R143 390
R164 10k
R158 27k
R154 10k
C136 18p CH
R155 1k
C135 7p CH
R150 820
R146 560
L113 10μH :5%
R142 39k
C799 0.047
Q113
AMP
Q113 2SC27140
Q110 DTC144EK
R131 4700
R128 470
Q110,112
H18/STD
GAIN SWITCH
Q112 DTC144EK
Q122 DTC144EK
C117 0.047
R168 10k
Q122
TIME CONST
C142 0.047
R167 470
D108 1SS193
R166 3300
Q121 2SC2715
Q121
LIMITER SWITCH
R165 6800
Q702,703
AFM TRAP
Q704
BUFFER
Q706
BUFFER
Q701
BUFFER
C701 15p
R707 1k :M
Q702 2SC3326
R708 1500
R728 10k
L701 18μH
C712 820p
R709 8200 :M
Q701 2SC2715
Q703 2SC3326
Q706 2SC2715
Q707
BUFFER
Q707 2SC2715
R706 10k
Q704 2SA1162
C203 47p
R213 270
R214 470
L705 47μH
R704 560 :M
L702 330μH
C704 130p
C705 160p
C706 160p
R705 220 :M
R710 470 :M
R711 560 :M
R701 1k
R702 47k
R703 47k
Q710 DTC144EK
Q711 DTC144EK
Q712 DTC144EK
Q710,711,712
H18/STD DETECT
R215 470
C202 0.047
C201 47 6.3V
R729 1k
C718 22 6.3V :TA
C717 0.1
C204 0.047
Q209
REC Y EQ
R216 22k
C207 0.047
R247 470
R220 470
C206 0.047
R218 470
Q209 2SC27140
L205 8.2μH
C210 36p
Q210 2SC27140
C208 15p
R223 470
R219 1200
R222 0
R232 1k
R217 22k
R221 470
L204 27μH
C209 22p
(HJ)
(ME/MP)
(MPHG)
(MEHK)
(MPHGHK)
(ME/MP)
R120 10k
R119 10k
D102 1SS193
D101 1SS193
09

ARD: 4000 series —

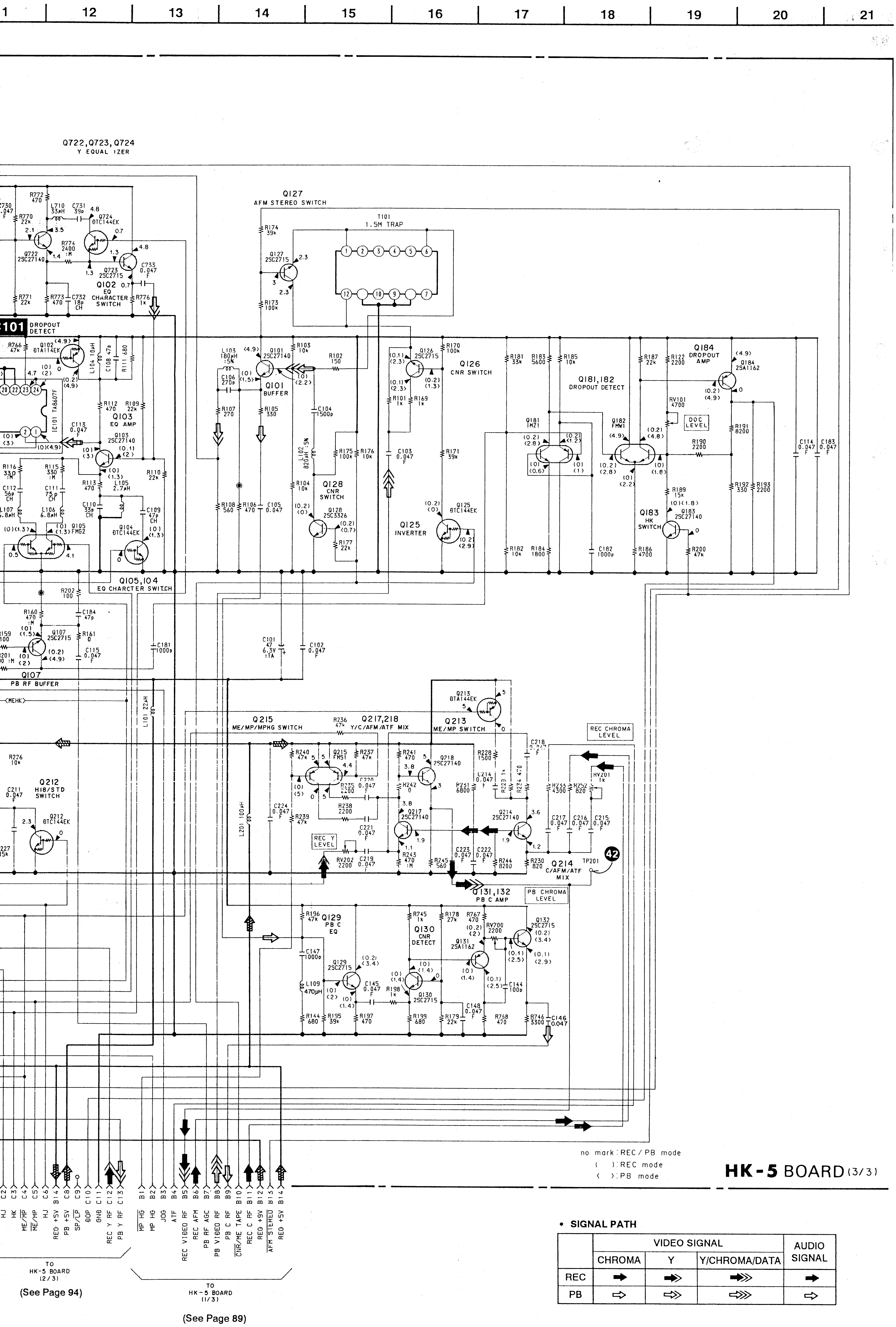

IC702
LIMITER AMP/HIGH FREQUENCY AMP
IC703
RF SWITCH
IC703 CX-20061
IC702 MC10H116
DL700
OUT
IN
Q721
HIGH FREQUENCY AMP
Q720
LIMITER AMP
Q722,Q723,Q724
Y EQUALIZER
Q102
EQ CHARACTER SWITCH
IC101
DROPOUT DETECT
IC101 TA8607F
Q124
H18 SWITCH
Q117
STD MODE EQ
Q116
H18 MODE EQ
Q118
H18 MODE EQ
IC102
LIMITER AMP
IC102 BA401
Q113
AMP
Q111
AMP
Q120
BUFFER
Q119
BUFFER
TP102
41
Q110,112
H18/STD GAIN SWITCH
Q103
EQ AMP
Q105,104
EQ CHARCTER SWITCH
Q702,703
AFM TRAP
Q704
BUFFER
Q706
BUFFER
Q701
BUFFER
Q707
BUFFER
Q121
LIMITER SWITCH
Q122,123
TIME CONSTANT SWITCH
Q107
PB RF BUFFER
Q710,711,712
H18/STD DETECT
Q209
REC Y EQ
Q210,211
H18/SFD SWITCH
Q212
H18/STD SWITCH
(HJ)
(MEHK)
(ME/MP)
(MPHG)
(MPHGHK)
C1 C2 C3 C4 C5 C6 B14 C8 C9 C10 C11 C12 C13
HK HJ HK ME/MP ME/MP HJ REG +5V PB +5V SP/LP DOP GND REC Y RF PB Y RF
B1 B2 B3 B4 B5 B6 B7
MP HG MP HG JOG ATF REC VIDEO RF REC AFM PB RF AGC
TO
HK-5 BOARD
(2/3)
(See Page 94)
TO
HK-5
(See P

FM MIX) SCHEMATIC DIAGRAM

No. HK-5 BOARD: 4000 series —


2
3
4
5
6
7
8
9
10
11
12
IC702
LIMITER AMP/HIGH FREQUENCY AMP
IC703
RF SWITCH
IC703 CX-20061
IC702 MC10H116
Q721
HIGH FREQUENCY AMP
Q720
LIMITER AMP
BL700
OUT
IN
Q722,Q723,Q724
Y EQUALIZER
Q102
EQ CHARACTER SWITCH
IC101
DROPOUT DETECT
IC101 TA8607F
Q103
EQ AMP
Q105,104
EQ CHARCTER SWITCH
Q107
PB RF BUFFER
Q124
H18 SWITCH
Q117
STD MODE EQ
Q116
H18 MODE EQ
Q118
H18 MODE EQ
Q120
BUFFER
Q119
BUFFER
IC102
LIMITER AMP
IC102 BA401
Q113
AMP
Q111
AMP
Q110,112
H18/STD GAIN SWITCH
Q121
LIMITER SWITCH
Q122,123
TIME CONSTANT SWITCH
TP102
41
Q701
BUFFER
Q702,703
AFM TRAP
Q704
BUFFER
Q706
BUFFER
Q707
BUFFER
Q710,711,712
H18/STD DETECT
Q209
REC Y EQ
Q210,211
H18/SFD SWITCH
Q212
H18/STD SWITCH
⟨ME/MP⟩
⟨MPHG⟩
⟨MEHK⟩
⟨MPHGHK⟩
⟨MEHK⟩
C1 HK
C2 HJ
C3 HK
C4 ME/MP
C5 ME/MP
C6 HJ
B14 REG +5V
C8 PB +5V
C9 SP/LP
C10 DOP
C11 GND
C12 REC Y RF
C13 PB Y RF
B1 MP HG
B2 MP HG
TO HK-5 BOARD (2/3)

(See Page 94)


12
13
14
15
16
17
18
19
20
21
Q722,Q723,Q724
Y EQUALIZER
Q127
AFM STEREO SWITCH
T101
1.5M TRAP
Q102
EQ CHARACTER SWITCH
IC101 DROPOUT DETECT
IC101 TA8607F
Q101
BUFFER
Q103
EQ AMP
Q126
CNR SWITCH
Q181,182
DROPOUT DETECT
Q184
DROPOUT AMP
DOC LEVEL
Q128
CNR SWITCH
Q125
INVERTER
Q183
HK SWITCH
Q105,104
EQ CHARCTER SWITCH
Q107
PB RF BUFFER
Q215
ME/MP/MPHG SWITCH
Q217,218
Y/C/AFM/ATF MIX
Q213
ME/MP SWITCH
REC CHROMA LEVEL
Q212
H18/STD SWITCH
REC Y LEVEL
Q214
C/AFM/ATF MIX
TP201
42
Q131,132
PB C AMP
PB CHROMA LEVEL
Q129
PB C EQ
Q130
CNR DETECT
C2 HJ
C3 HK
C4 ME/MP
C5 ME/MP
C6 HJ
B14 REG +5V
C8 PB +5V
C9 SP/LP
C10 DOP
C11 GND
C12 REC Y RF
C13 PB Y RF
B1 MP HG
B2 MP HG
B3 JOG
B4 ATF
B5 REC VIDEO RF
B6 REC AFM
B7 PB RF AGC
B8 PB VIDEO RF
B9 PB C RF
B10 CNR/ME TAPE
B11 REC C RF
B12 REG +9V
B13 AFM STEREO
B14 REG +5V
TO HK-5 BOARD (2/3)
TO HK-5 BOARD (1/3)

(See Page 94)

(See Page 89)

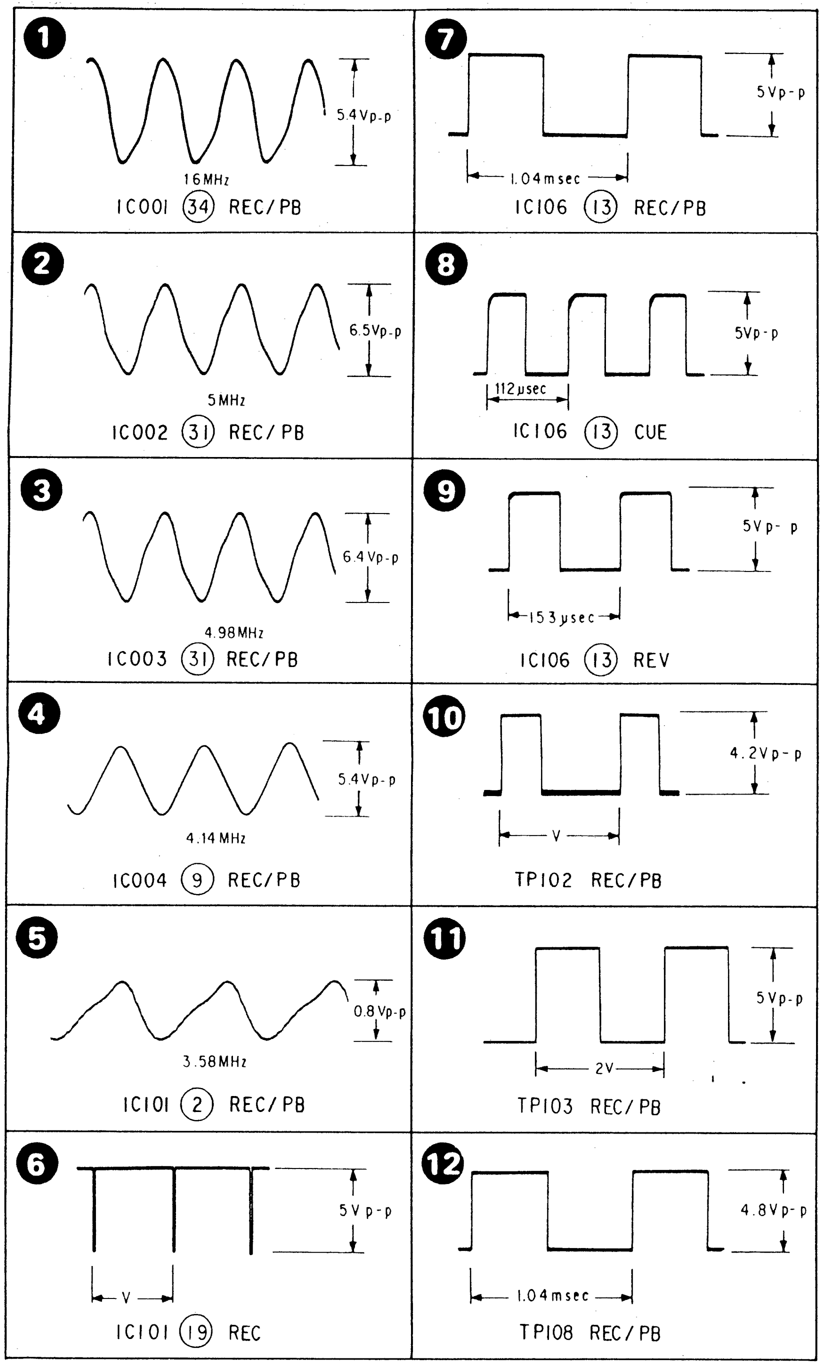
no mark : REC / PB mode
( ) : REC mode
⟨ ⟩ : PB mode

HK-5 BOARD (3/3)

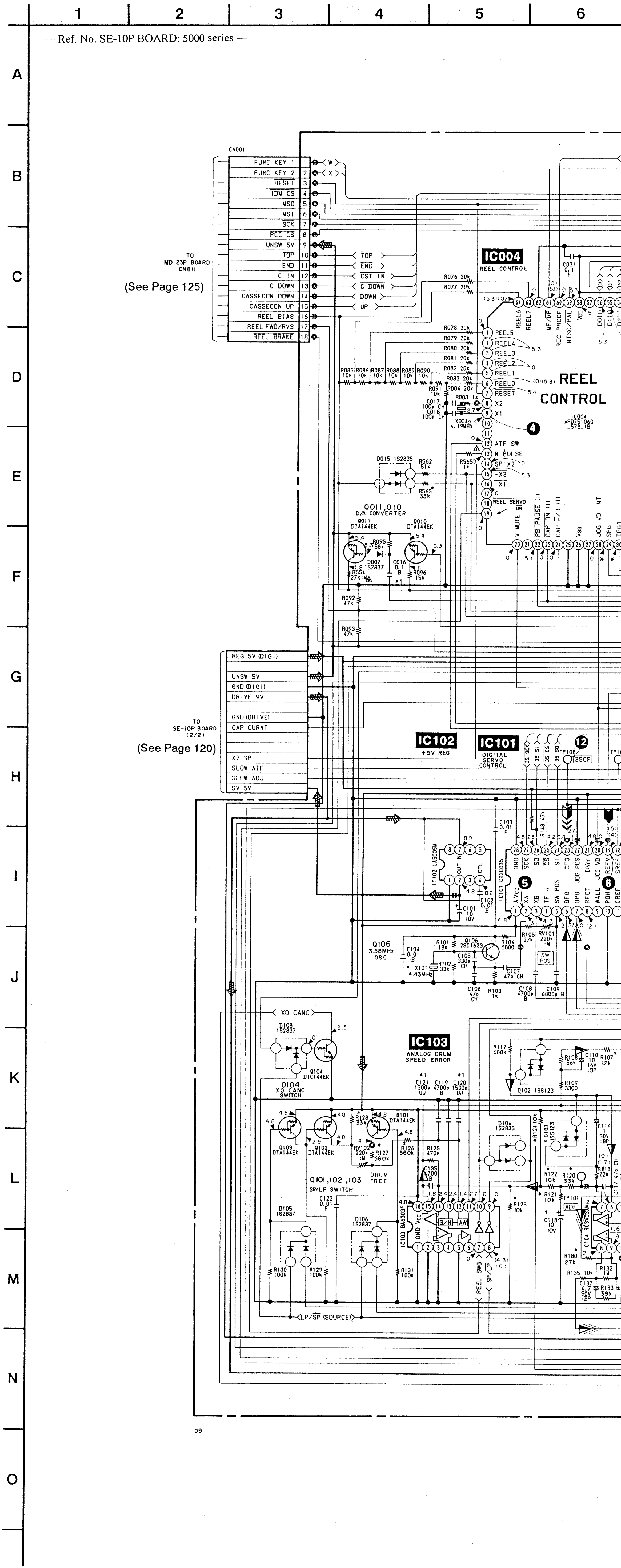
- **SIGNAL PATH**

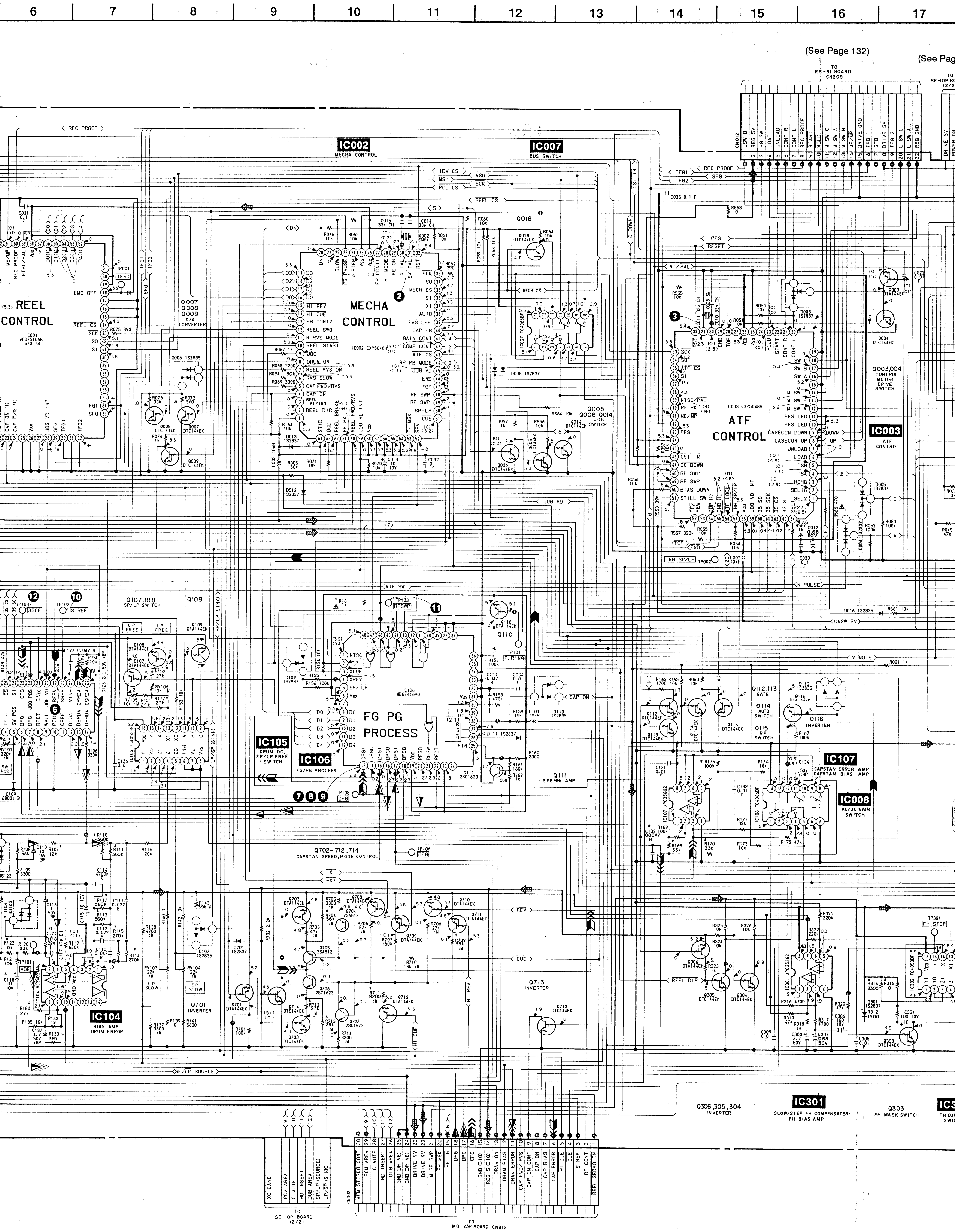
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC	➡	➡≫	➡⋙	➡
PB	⇨	⇨≫	⇨⋙	⇨

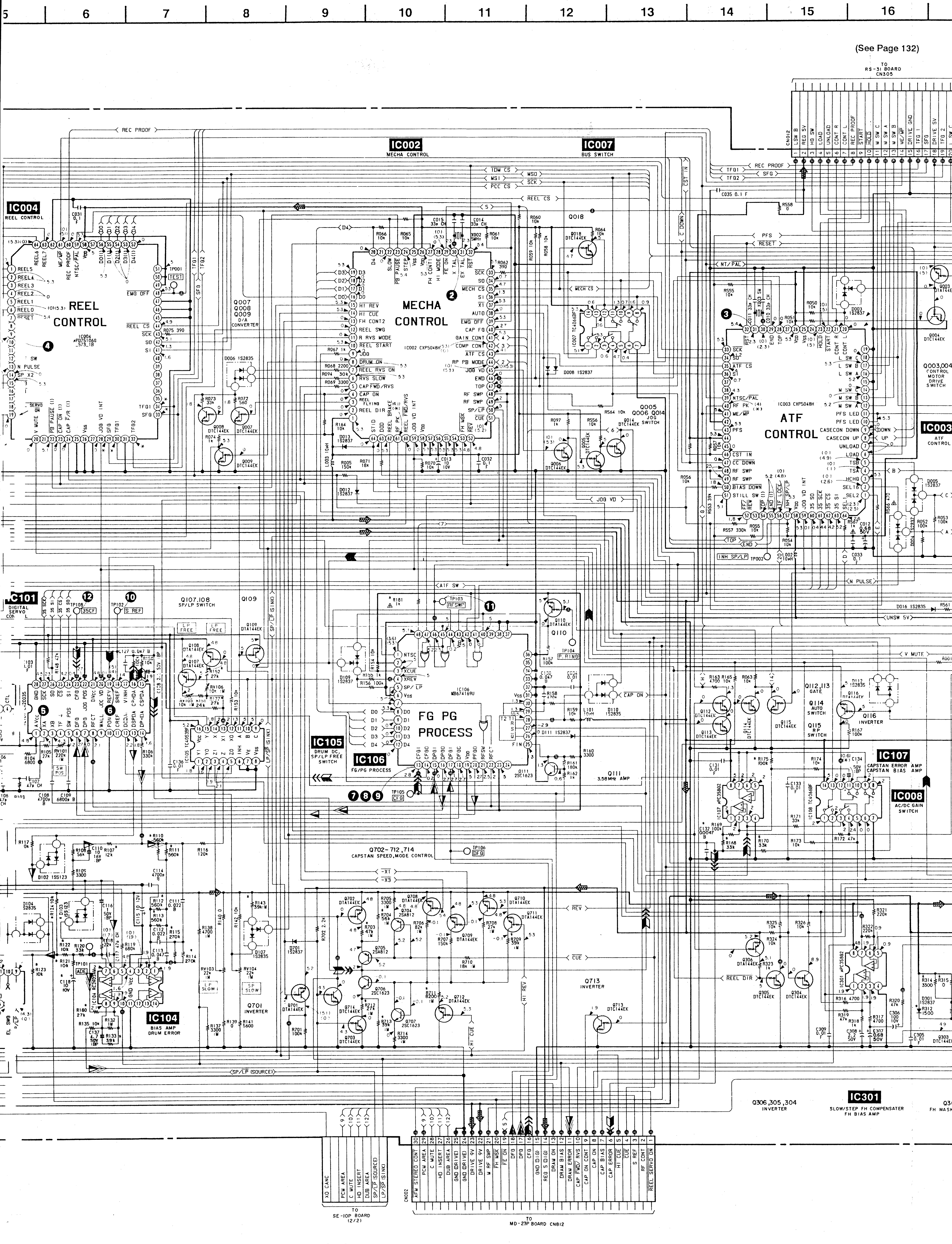
SE-10P BOARD (1/2)



SE-10P (SERVO, SYSTEM CONTROL) SCHEMATIC DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
— Ref. No. SE-10P BOARD: 5000 series —
CN001
FUNC KEY 1
FUNC KEY 2
RESET
IDM CS
MSO
MSI
SCK
PCC CS
UNSW 5V
TOP
END
C IN
C DOWN
CASSECON DOWN
CASSECON UP
REEL BIAS
REEL FWD/RVS
REEL BRAKE
TO MD-23P BOARD CN811
(See Page 125)
IC004
REEL CONTROL
REEL CONTROL
REEL5
REEL4
REEL3
REEL2
REEL1
REEL0
RESET
X2
X1
ATF SW
N PULSE
SP X2
-X3
-X1
REEL SERVO
Q011,010 D/A CONVERTER
D015 1S2835
REG 5V (DIGI)
UNSW 5V
GND (DIGI)
DRIVE 9V
GND (DRIVE)
CAP CURNT
X2 SP
SLOW ATF
SLOW ADJ
SV 5V
TO SE-10P BOARD (2/2)
(See Page 120)
IC102
+5V REG
IC101
DIGITAL SERVO CONTROL
TP108
Q106 3.58MHz OSC
X101 4.43MHz
XO CANC
D108 1S2837
Q104 XO CANC SWITCH
IC103
ANALOG DRUM SPEED ERROR
Q101,102,103 SP/LP SWITCH
DRUM FREE
D105 1S2837
D106 1S2837
D104 1S2835
D102 1S5123
LP/SP (SOURCE)
09


6
7
8
9
10
11
12
13
14
15
16
17
(See Page 132)
TO RS-31 BOARD CN305
(See Pag
TO SE-10P BO
REC PROOF
IC002
MECHA CONTROL
IC007
BUS SWITCH
REEL CONTROL
IC004 μPD75106G-573-1B
Q007 Q008 Q009 D/A CONVERTER
MECHA CONTROL
IC002 CXP5048H
Q018
Q005 Q006 Q014 SWITCH
ATF CONTROL
IC003 CXP5048H
IC003
ATF CONTROL
Q003,004 CONTROL MOTOR DRIVE SWITCH
Q107,108 SP/LP SWITCH
Q109
IC105
DRUM DC, SP/LP FREE SWITCH
IC106
FG/PG PROCESS
FG PG PROCESS
IC106 MB674169U
Q110
Q111 3.58MHz AMP
Q112,113 GATE
Q114 AUTO SWITCH
Q115 RP SWITCH
Q116 INVERTER
IC107
CAPSTAN ERROR AMP CAPSTAN BIAS AMP
IC008
AC/DC GAIN SWITCH
Q702-712,714 CAPSTAN SPEED,MODE CONTROL
IC104
BIAS AMP DRUM ERROR
Q701 INVERTER
Q713 INVERTER
Q306,305,304 INVERTER
IC301
SLOW/STEP FH COMPENSATER· FH BIAS AMP
Q303 FH MASK SWITCH
IC3
FH CO SWI
TO SE-10P BOARD (2/2)
TO MD-23P BOARD CN812
(See Page 120)
(See Page 126)

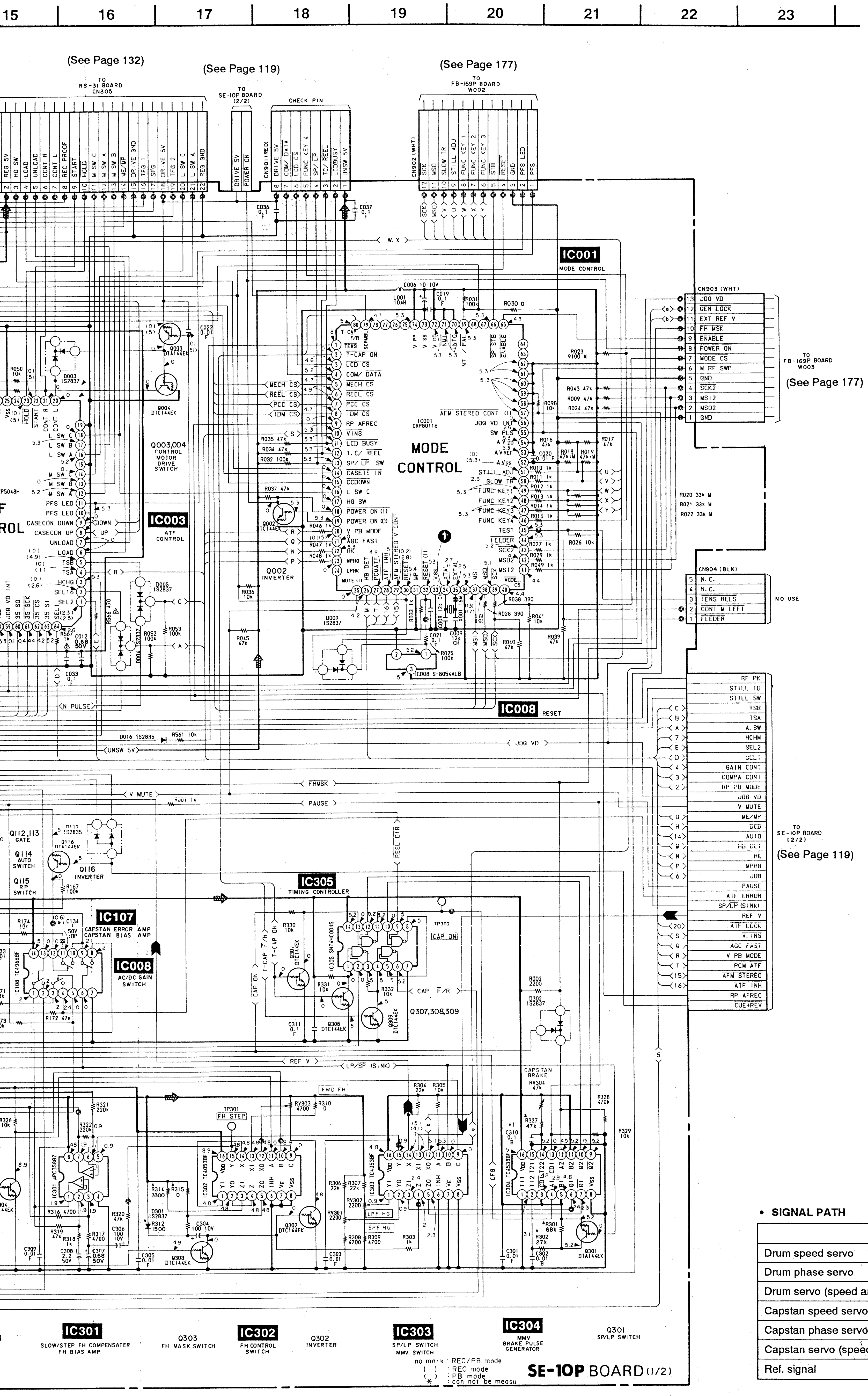

5
6
7
8
9
10
11
12
13
14
15
16
TO RS-31 BOARD CN305
IC004
REEL CONTROL
IC002
MECHA CONTROL
IC007
BUS SWITCH
IC003
ATF CONTROL
IC101
DIGITAL SERVO
IC104
BIAS AMP DRUM ERROR
IC105
DRUM DC, SP/LP FREE SWITCH
IC106
FG/PG PROCESS
FG PG PROCESS
IC107
CAPSTAN ERROR AMP CAPSTAN BIAS AMP
IC008
AC/DC GAIN SWITCH
IC301
SLOW/STEP FH COMPENSATER FH BIAS AMP
Q007 Q008 Q009 D/A CONVERTER
Q005 Q006 Q014 JOG SWITCH
Q003,004 CONTROL MOTOR DRIVE SWITCH
Q107,108 SP/LP SWITCH
Q109
Q110
Q111 3.58MHz AMP
Q112,113 GATE
Q114 AUTO SWITCH
Q115 RP SWITCH
Q116 INVERTER
Q701 INVERTER
Q702-712,714 CAPSTAN SPEED,MODE CONTROL
Q713 INVERTER
Q306,305,304 INVERTER
TO SE-10P BOARD (2/2)
TO MD-23P BOARD CN812
CN002
CN012

(See Page 132)

(See Page 120)

(See Page 126)

]


15
16
17
18
19
20
21
22
23
(See Page 132)
TO RS-31 BOARD CN305
(See Page 119)
TO SE-10P BOARD (2/2)
CHECK PIN
(See Page 177)
TO FB-169P BOARD W002
IC001
MODE CONTROL
IC001 CXP80116
MODE CONTROL
CN903 (WHT)
JOG VD
GEN LOCK
EXT REF V
FH MSK
ENABLE
POWER ON
MODE CS
M RF SWP
GND
SCK2
MSI2
MSO2
GND
TO FB-169P BOARD W003
(See Page 177)
CN904 (BLK)
N.C.
N.C.
TENS RELS
CONT M LEFT
FEEDER
NO USE
IC003
ATF CONTROL
Q003,004 CONTROL MOTOR DRIVE SWITCH
Q002 INVERTER
IC008 RESET
IC008 S-8054ALB
TO SE-10P BOARD (2/2)
(See Page 119)
RF PK
STILL ID
STILL SW
TSB
TSA
A.SW
HCHM
SEL2
GAIN CONT
COMPA CONT
RF PB MODE
JOG VD
V MUTE
ME/MP
DCD
AUTO
HB DET
HK
MPHG
JOG
PAUSE
ATF ERROR
SP/LP (SINK)
REF V
ATF LOCK
V.INS
AGC FAST
V PB MODE
PCM ATF
AFM STEREO
ATF INH
RP AFREC
CUE+REV
IC305
TIMING CONTROLLER
IC107
CAPSTAN ERROR AMP
CAPSTAN BIAS AMP
IC008
AC/DC GAIN SWITCH
Q112,113 GATE
Q114 AUTO SWITCH
Q115 RP SWITCH
Q116 INVERTER
Q307,308,309
CAPSTAN BRAKE
TP301 FH STEP
TP302 CAP ON
FWD FH
LPF HG
SPF HG
IC301
SLOW/STEP FH COMPENSATER FH BIAS AMP
Q303
FH MASK SWITCH
IC302
FH CONTROL SWITCH
Q302
INVERTER
IC303
SP/LP SWITCH MMV SWITCH
IC304
MMV BRAKE PULSE GENERATOR
Q301
SP/LP SWITCH
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
* : can not be measu

SE-10P BOARD (1/2)

- **SIGNAL PATH**

	REC	REC/PB
Drum speed servo		▷
Drum phase servo		▷▷
Drum servo (speed and phase)		▷▷▷
Capstan speed servo		⊳
Capstan phase servo		⊳⊳
Capstan servo (speed and phase)		⊳⊳⊳
Ref. signal	▶	

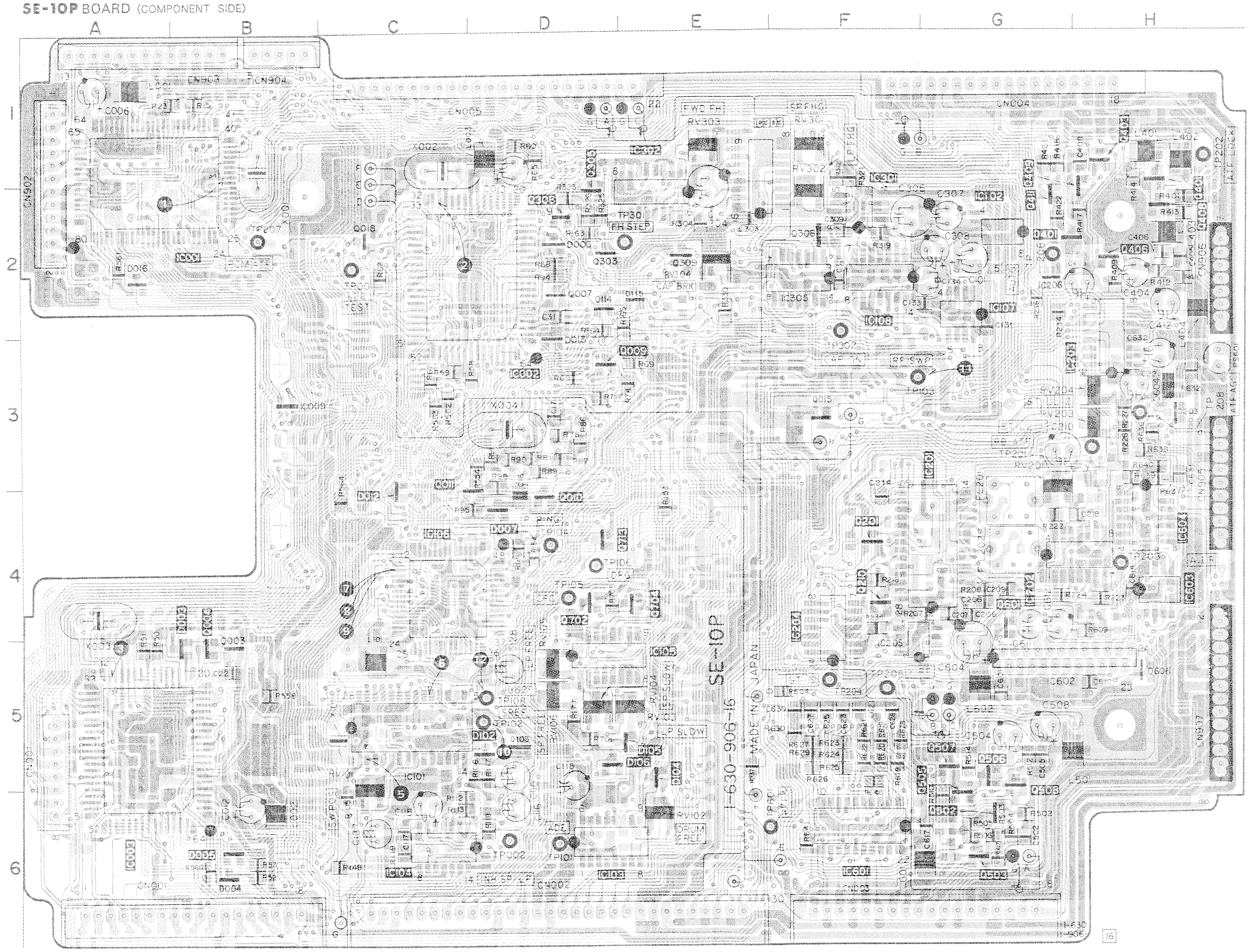
SE-10P (SERVO, SYSTEM CONTROL), IG-4 (LINK) PRINTED WIRING BOARDS

— Ref. No. SE-10P BOARD: 5000 series, IG-4 BOARD: 6000 series —

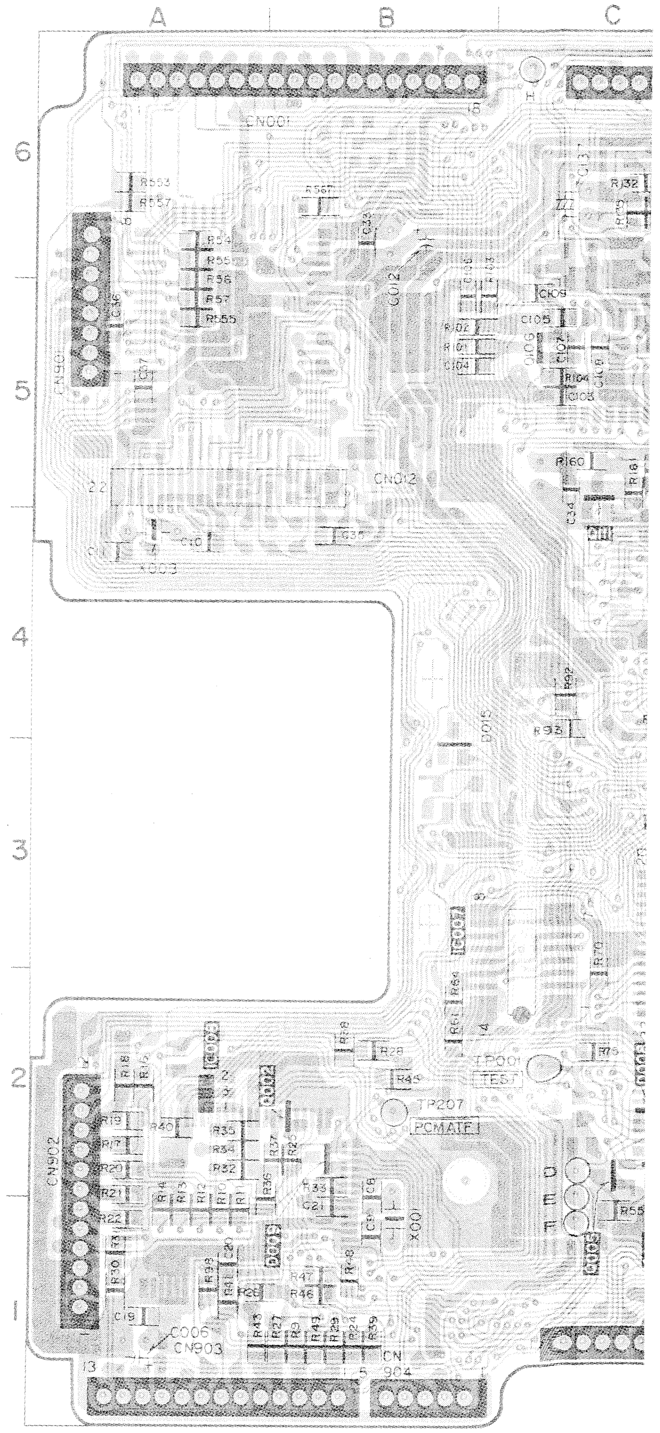
SE-10P BOARD (COMPONENT SIDE)	
D003	B-5
D004	B-6
D005	B-6
D006	D-2
D007	D-4
D012	C-4
D013	D-3
D016	A-2
D101	D-6
D102	D-5
D103	D-5
D104	E-5
D105	E-5
D106	E-5
D201	F-4
D401	G-2
IC001	B-2
IC002	D-3
IC003	A-5
IC101	C-5
IC102	G-2
IC103	D-6
IC104	C-6
IC105	E-5
IC106	C-4
IC107	G-2
IC108	F-2
IC201	G-4
IC202	G-4
IC203	H-3
IC204	F-4
IC205	F-4
IC301	F-2
IC302	E-2
IC303	E-1
IC305	E-3
IC601	F-6
IC602	G-5
IC603	H-4
IC604	H-4
Q003	B-4
Q004	B-4
Q007	D-2
Q009	E-3
Q010	D-4
Q011	C-3
Q015	F-3
Q018	C-2
Q114	D-2
Q210	F-4
Q303	E-2
Q305	D-2
Q306	D-2
Q308	F-2
Q309	E-2
Q401	H-2
Q403	H-1
Q406	H-2
Q408	H-2
Q409	G-2
Q411	G-2
Q502	G-6
Q503	G-6
Q505	G-5
Q506	G-5
Q507	G-5
Q508	G-5
Q601	G-4
Q604	H-3
Q606	H-5
Q702	D-4
Q704	E-4
Q713	E-4

SE-10P BOARD (CONDUCTOR SIDE)	
D008	C-2
D009	B-1
D015	B-4
D107	D-5
D108	D-5
D109	D-4
D110	D-4
D111	C-5
D112	F-3
D203	H-3
D301	E-1
D302	E-2
D701	E-5
IC004	C-3
IC007	C-3
IC008	A-2
IC304	F-3
Q002	B-2
Q005	C-1
Q006	D-2
Q008	D-2
Q014	C-1
Q101	E-6
Q102	E-5
Q103	E-5
Q104	C-5
Q106	B-5
Q107	D-5
Q108	D-5
Q109	D-4
Q110	D-4
Q111	C-4
Q112	D-2
Q113	D-1
Q115	E-2
Q116	F-2
Q202	G-4
Q205	H-3
Q209	F-4
Q301	F-3
Q302	E-1
Q304	D-2
Q307	F-2
Q402	H-1
Q404	H-2
Q405	H-1
Q407	H-2
Q410	G-2
Q504	G-6
Q605	H-3
Q701	D-4
Q703	E-5
Q705	E-4
Q706	E-4
Q707	E-4
Q708	E-4
Q709	E-4
Q710	E-4
Q711	E-4
Q712	E-4
Q714	E-5

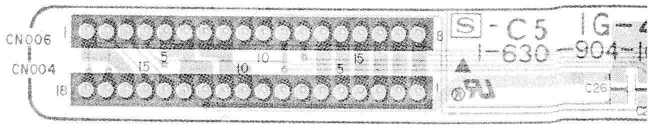
SE-10P BOARD (COMPONENT SIDE)

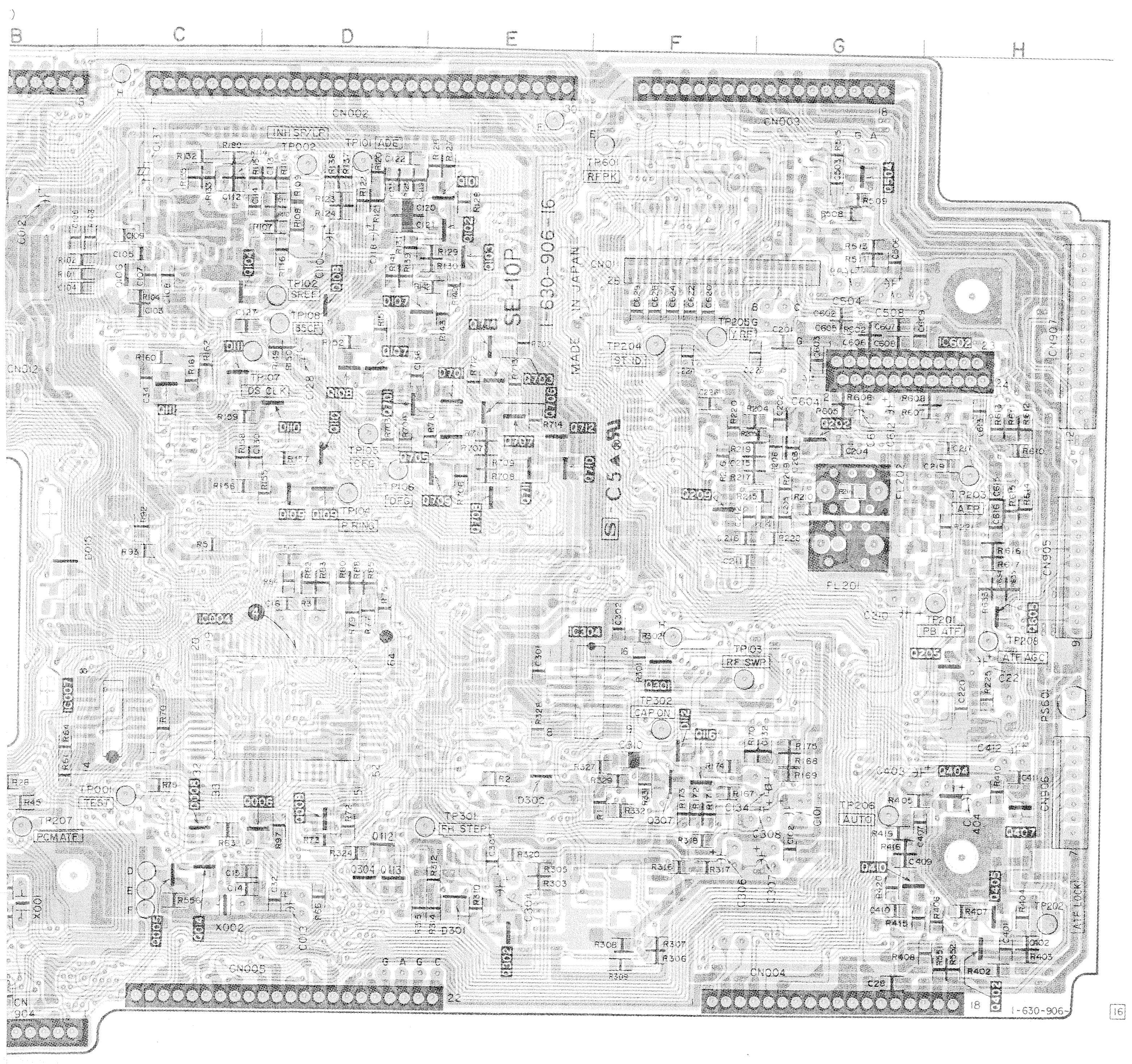

A
B
C
D
E
F
G
H
1
2
3
4
5
6
SE-10P
1-630-906-16
MADE IN JAPAN
CN902
CN903
CN904
CN005
CN004
CN002
CN001
IC001
IC002
IC101
IC103
IC104
IC105
IC106
IC107
IC108
IC201
IC202
IC301
IC302
IC305
IC601
IC602
IC603
FWD FH
RV303
LP FH/G
EP FH/G
RV302
FH STEP
CAP BRK
RF SWP
TEST
DRUM FREE
LP SLOW
ATF LOCK

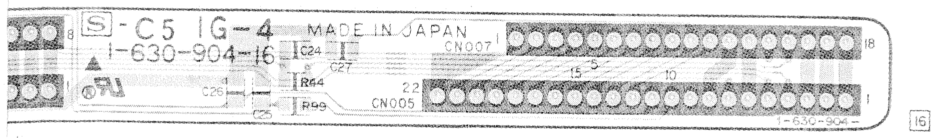
SE-10P BOARD (COMPONENT SIDE)


A
B
C
1
2
3
4
5
6
CN001
CN902
CN903
CN904
CN012
TP207
PCMATE1
TEST
X001

IG-4 BOARD (COMPONENT SIDE)


CN006
CN004
S-C5
IG-4
1-630-904-1





SE-10 (P) BOARD, COMPLETE

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< DIODE >

D003	8-719-400-18	DIODE	MA152WK
D004	8-719-400-18	DIODE	MA152WK
D005	8-719-400-18	DIODE	MA152WK
D006	8-719-104-34	DIODE	1S2836
D007	8-719-400-18	DIODE	MA152WK
D008	8-719-400-18	DIODE	MA152WK
D009	8-719-400-18	DIODE	MA152WK
D012	8-719-400-18	DIODE	MA152WK
D013	8-719-400-18	DIODE	MA152WK
D015	8-719-104-34	DIODE	1S2836
D016	8-719-104-34	DIODE	1S2836
D102	8-719-800-76	DIODE	1SS226
D103	8-719-800-76	DIODE	1SS226
D104	8-719-104-34	DIODE	1S2836
D105	8-719-400-18	DIODE	MA152WK
D106	8-719-400-18	DIODE	MA152WK
D107	8-719-104-34	DIODE	1S2836
D108	8-719-400-18	DIODE	MA152WK
D109	8-719-400-18	DIODE	MA152WK
D110	8-719-104-34	DIODE	1S2836
D111	8-719-400-18	DIODE	MA152WK
D112	8-719-104-34	DIODE	1S2836
D201	8-719-400-18	DIODE	MA152WK
D203	8-719-105-82	DIODE	RD5. 1M-B2
D301	8-719-400-18	DIODE	MA152WK
D302	8-719-400-18	DIODE	MA152WK
D401	8-719-800-76	DIODE	1SS226
D701	8-719-400-18	DIODE	MA152WK

< IC >

IC001	8-752-816-72	IC	CXP80116-692Q
IC002	8-752-818-14	IC	CXP5046H-255Q
IC003	8-752-815-13	IC	CXP5048H-222Q
IC004	8-759-144-21	IC	uPD75106G-573-1B
IC007	8-759-008-67	IC	MC14066BF
IC008	8-759-937-56	IC	S-8054ALB-LM-T1
IC101	8-752-003-50	IC	CX20035
IC102	8-752-817-64	IC	CXP5048H-244Q
IC103	8-759-925-66	IC	BA6303F
IC104	8-759-981-75	IC	RC3403AM
IC105	8-759-208-11	IC	MC14053BF
IC106	8-759-971-25	IC	MB674169U
IC107	8-759-100-94	IC	uPC358G2
IC108	8-759-008-67	IC	MC14066BF
IC201	8-759-928-56	IC	CXA1042M
IC202	8-759-150-05	IC	uPC324G2-E1
IC203	8-759-208-11	IC	MC14053BF
IC204	8-759-927-46	IC	SN74HC00ANS
IC205	8-759-710-86	IC	NJM2233BM
IC206	8-759-035-93	IC	SC7S32F
IC301	8-759-100-94	IC	uPC358G2
IC302	8-759-208-11	IC	MC14053BF
IC303	8-759-208-11	IC	MC14053BF
IC304	8-759-200-90	IC	TC4538BF
IC305	8-759-927-46	IC	SN74HC00ANS
IC601	8-759-927-94	IC	BU3707F
IC602	8-759-927-52	IC	BA7036LS
IC603	8-759-100-93	IC	uPC393G2
IC604	8-759-150-05	IC	uPC324G2

< TRANSISTOR >

Q002	8-729-901-01	TRANSISTOR	DTC144EK
Q003	8-729-901-06	TRANSISTOR	DTA144EK
Q004	8-729-901-01	TRANSISTOR	DTC144EK
Q005	8-729-901-01	TRANSISTOR	DTC144EK
Q006	8-729-901-01	TRANSISTOR	DTC144EK
Q007	8-729-901-01	TRANSISTOR	DTC144EK
Q008	8-729-901-01	TRANSISTOR	DTC144EK
Q009	8-729-901-01	TRANSISTOR	DTC144EK
Q010	8-729-901-06	TRANSISTOR	DTA144EK
Q011	8-729-901-06	TRANSISTOR	DTA144EK
Q014	8-729-901-01	TRANSISTOR	DTC144EK
Q015	8-729-901-01	TRANSISTOR	DTC144EK
Q018	8-729-901-01	TRANSISTOR	DTC144EK
Q101	8-729-901-06	TRANSISTOR	DTA144EK
Q102	8-729-901-06	TRANSISTOR	DTA144EK
Q103	8-729-901-06	TRANSISTOR	DTA144EK
Q104	8-729-901-01	TRANSISTOR	DTC144EK
Q106	8-729-100-66	TRANSISTOR	2SC1623
Q107	8-729-901-06	TRANSISTOR	DTA144EK
Q108	8-729-901-06	TRANSISTOR	DTA144EK
Q109	8-729-901-06	TRANSISTOR	DTA144EK
Q110	8-729-901-06	TRANSISTOR	DTA144EK
Q111	8-729-100-66	TRANSISTOR	2SC1623
Q112	8-729-901-01	TRANSISTOR	DTC144EK
Q113	8-729-901-01	TRANSISTOR	DTC144EK
Q114	8-729-901-01	TRANSISTOR	DTC144EK
Q115	8-729-901-01	TRANSISTOR	DTC144EK
Q116	8-729-901-06	TRANSISTOR	DTA144EK
Q202	8-729-216-22	TRANSISTOR	2SA1162
Q205	8-729-901-01	TRANSISTOR	DTC144EK
Q209	8-729-901-06	TRANSISTOR	DTA144EK
Q210	8-729-901-01	TRANSISTOR	DTC144EK
Q301	8-729-901-06	TRANSISTOR	DTA144EK
Q302	8-729-901-01	TRANSISTOR	DTC144EK
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Q307	8-729-901-01	TRANSISTOR	DTC144EK
Q308	8-729-901-01	TRANSISTOR	DTC144EK
Q309	8-729-901-01	TRANSISTOR	DTC144EK
Q401	8-729-216-22	TRANSISTOR	2SA1162
Q402	8-729-100-66	TRANSISTOR	2SC1623
Q403	8-729-100-66	TRANSISTOR	2SC1623
Q404	8-729-216-22	TRANSISTOR	2SA1162
Q405	8-729-100-66	TRANSISTOR	2SC1623
Q406	8-729-216-22	TRANSISTOR	2SA1162
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Q408	8-729-216-22	TRANSISTOR	2SA1162
Q409	8-729-100-66	TRANSISTOR	2SC1623
Q410	8-729-100-66	TRANSISTOR	2SC1623
Q411	8-729-100-66	TRANSISTOR	2SC1623
Q502	8-729-100-66	TRANSISTOR	2SC1623
Q503	8-729-901-06	TRANSISTOR	DTA144EK
Q504	8-729-100-66	TRANSISTOR	2SC1623
Q505	8-729-100-66	TRANSISTOR	2SC1623
Q506	8-729-100-66	TRANSISTOR	2SC1623
Q507	8-729-901-06	TRANSISTOR	DTA144EK
Q508	8-729-901-06	TRANSISTOR	DTA144EK
Q601	8-729-901-06	TRANSISTOR	DTA144EK
Q604	8-729-805-25	TRANSISTOR	2SB1121
Q605	8-729-100-66	TRANSISTOR	2SC1623
Q606	8-729-901-06	TRANSISTOR	DTA144EK
Q701	8-729-901-06	TRANSISTOR	DTA144EK
Q702	8-729-901-06	TRANSISTOR	DTA144EK
Q703	8-729-901-01	TRANSISTOR	DTC144EK
Q704	8-729-216-22	TRANSISTOR	2SA1162
Q705	8-729-216-22	TRANSISTOR	2SA1162
Q706	8-729-100-66	TRANSISTOR	2SC1623
Q707	8-729-100-66	TRANSISTOR	2SC1623
Q708	8-729-901-06	TRANSISTOR	DTA144EK
Q709	8-729-901-06	TRANSISTOR	DTA144EK
Q710	8-729-901-06	TRANSISTOR	DTA144EK
Q711	8-729-901-06	TRANSISTOR	DTA144EK
Q712	8-729-901-06	TRANSISTOR	DTA144EK
Q713	8-729-901-01	TRANSISTOR	DTC144EK
Q714	8-729-901-01	TRANSISTOR	DTC144EK

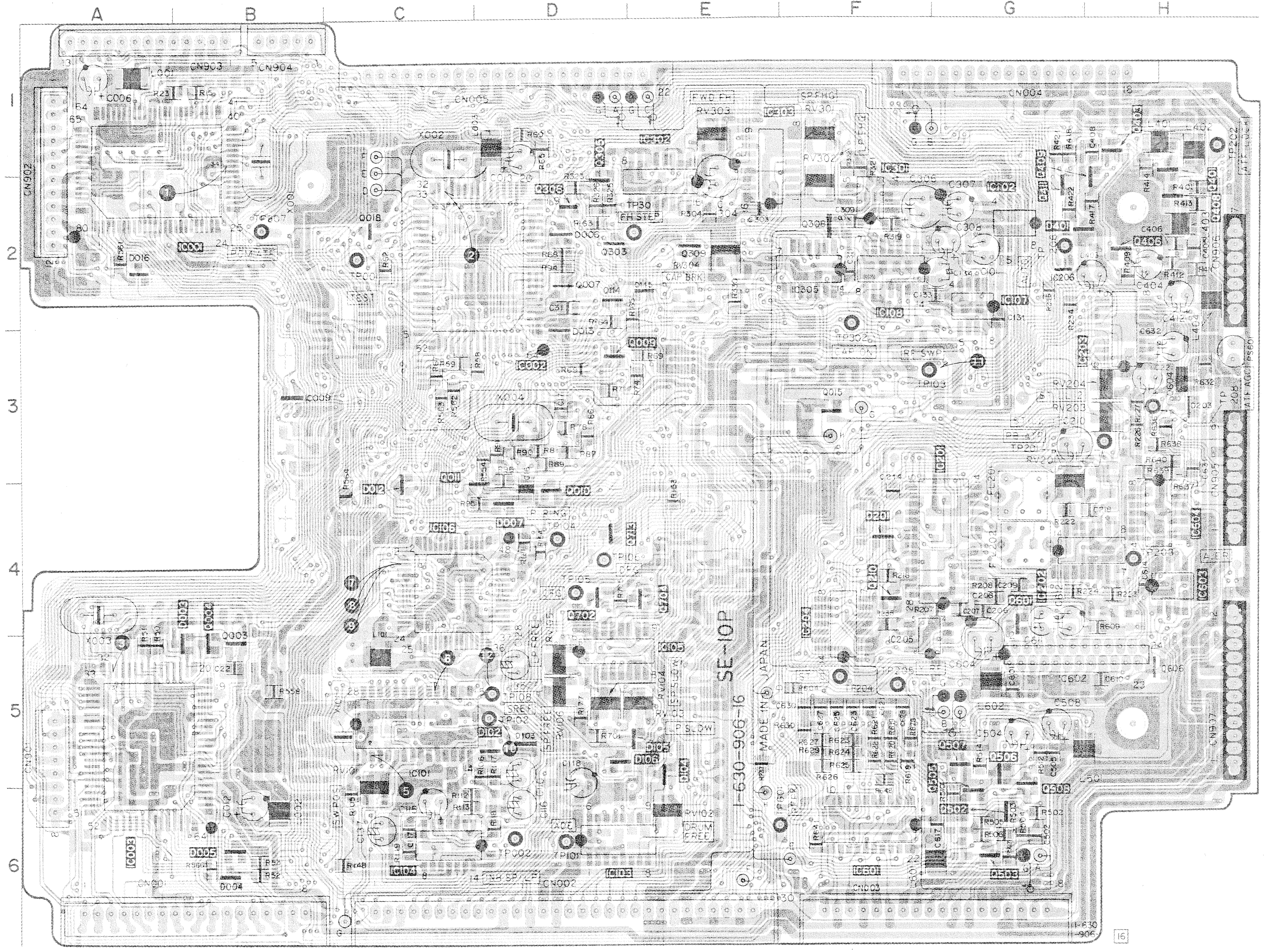
SE-10P (SERVO, SYSTEM CONTROL), IG-4 (LINK) PRINTED WIRING BOARDS

— Ref. No. SE-10P BOARD: 5000 series, IG-4 BOARD: 6000 series —

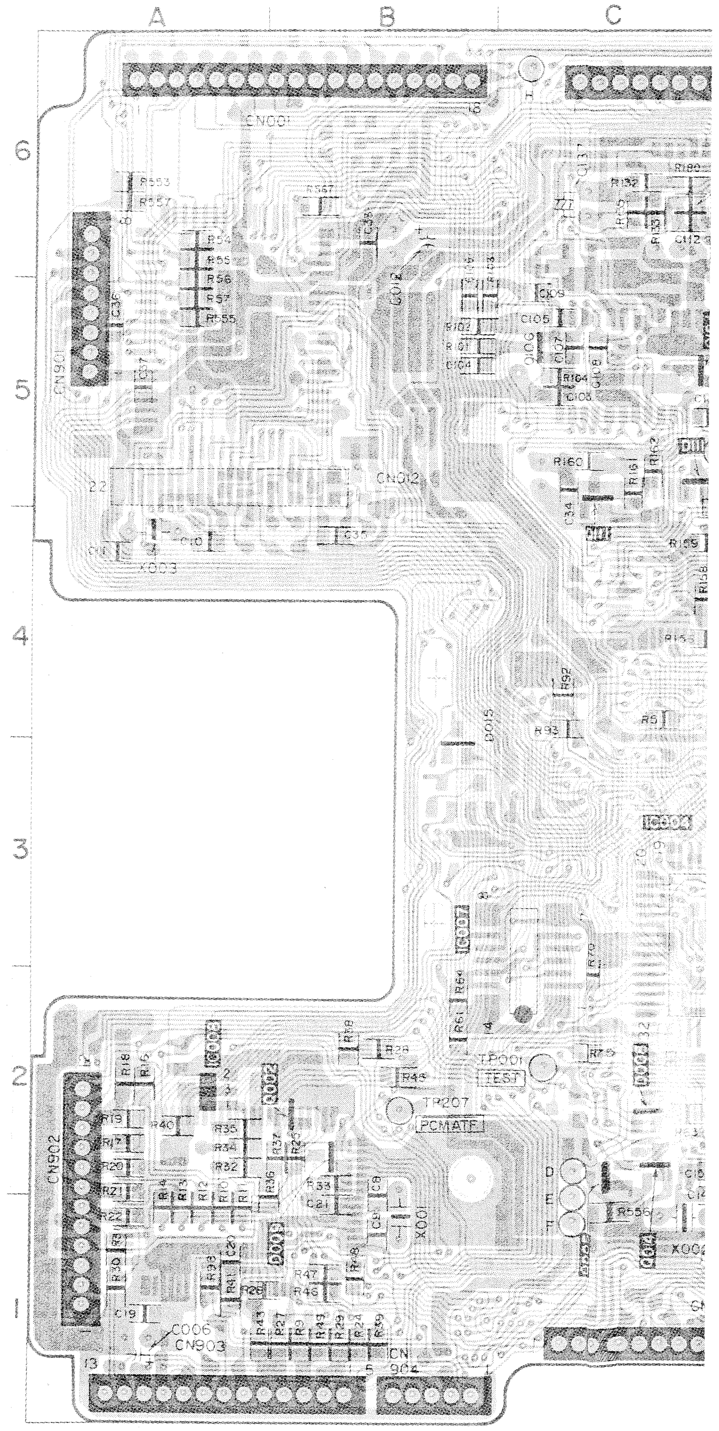
SE-10P BOARD (COMPONENT SIDE)	
D003	B-5
D004	B-6
D005	B-6
D006	D-2
D007	D-4
D012	C-4
D013	D-3
D016	A-2
D101	D-6
D102	D-5
D103	D-5
D104	E-5
D105	E-5
D106	E-5
D201	F-4
D401	G-2
IC001	B-2
IC002	D-3
IC003	A-5
IC101	C-5
IC102	G-2
IC103	D-6
IC104	C-6
IC105	E-5
IC106	C-4
IC107	G-2
IC108	F-2
IC201	G-4
IC202	G-4
IC203	H-3
IC204	F-4
IC205	F-4
IC301	F-2
IC302	E-2
IC303	E-1
IC305	E-3
IC601	F-6
IC602	G-5
IC603	H-4
IC604	H-4
Q003	B-4
Q004	B-4
Q007	D-2
Q009	E-3
Q010	D-4
Q011	C-3
Q015	F-3
Q018	C-2
Q114	D-2
Q210	F-4
Q303	E-2
Q305	D-2
Q306	D-2
Q308	F-2
Q309	E-2
Q401	H-2
Q403	H-1
Q406	H-2
Q408	H-2
Q409	G-2
Q411	G-2
Q502	G-6
Q503	G-6
Q505	G-5
Q506	G-5
Q507	G-5
Q508	G-5
Q601	G-4
Q604	H-3
Q606	H-5
Q702	D-4
Q704	E-4
Q713	E-4

SE-10P BOARD (CONDUCTOR SIDE)	
D008	C-2
D009	B-1
D015	B-4
D107	D-5
D108	D-5
D109	D-4
D110	D-4
D111	C-5
D112	F-3
D203	H-3
D301	E-1
D302	E-2
D701	E-5
IC004	C-3
IC007	C-3
IC008	A-2
IC304	F-3
Q002	B-2
Q005	C-1
Q006	D-2
Q008	D-2
Q014	C-1
Q101	E-6
Q102	E-5
Q103	E-5
Q104	C-5
Q106	B-5
Q107	D-5
Q108	D-5
Q109	D-4
Q110	D-4
Q111	C-4
Q112	D-2
Q113	D-1
Q115	E-2
Q116	F-2
Q202	G-4
Q205	H-3
Q209	F-4
Q301	F-3
Q302	E-1
Q304	D-2
Q307	F-2
Q402	H-1
Q404	H-2
Q405	H-1
Q407	H-2
Q410	G-2
Q504	G-6
Q605	H-3
Q701	D-4
Q703	E-5
Q705	E-4
Q706	E-4
Q707	E-4
Q708	E-4
Q709	E-4
Q710	E-4
Q711	E-4
Q712	E-4
Q714	E-5

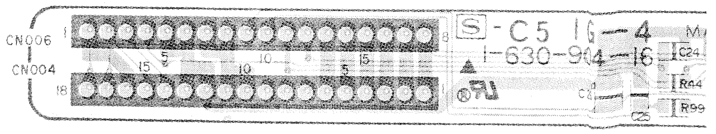
SE-10P BOARD (COMPONENT SIDE)


A
B
C
D
E
F
G
H
1
2
3
4
5
6
SE-10P
1-630-906-16
MADE IN JAPAN
CN902
CN903
CN904
CN005
CN004
CN002
RV303
RV302
FWD FH
SP FHG
CAP FREE
DRUM FREE
TP101
TP102
X003
X004

SE-10P BOARD (COMPONENT SIDE)


A
B
C
1
2
3
4
5
6
CN001
CN901
CN902
CN903
CN904
CN012
X001
X002
X003
PCMATE
TEST

IG-4 BOARD (COMPONENT SIDE)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CN004
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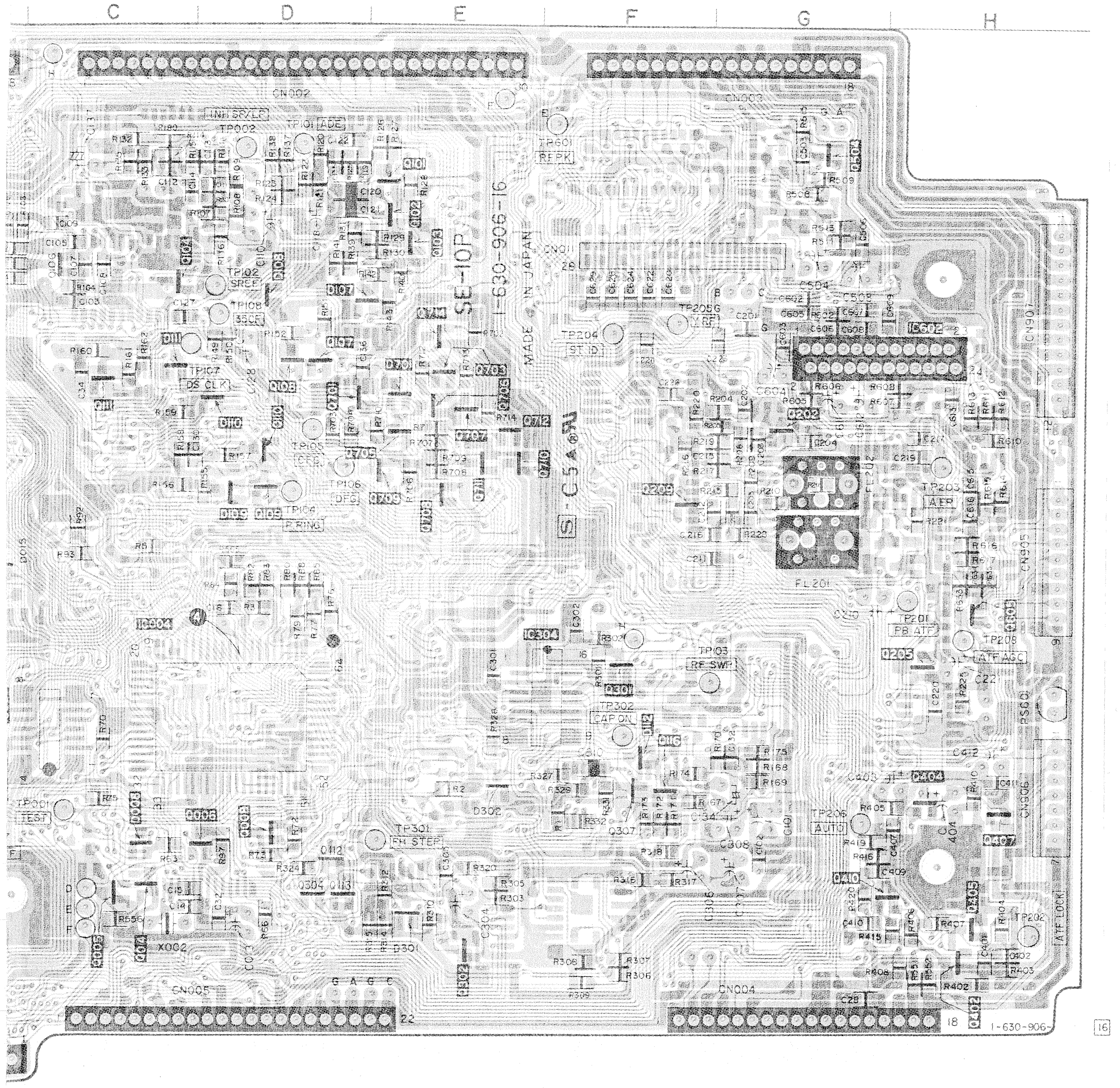

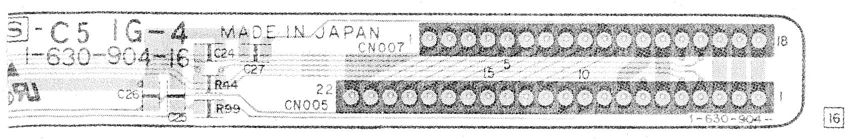

SE-10 (P) BOARD, COMPLETE
****

< DIODE >

D003	8-719-400-18	DIODE	MA152WK
D004	8-719-400-18	DIODE	MA152WK
D005	8-719-400-18	DIODE	MA152WK
D006	8-719-104-34	DIODE	1S2836
D007	8-719-400-18	DIODE	MA152WK
D008	8-719-400-18	DIODE	MA152WK
D009	8-719-400-18	DIODE	MA152WK
D012	8-719-400-18	DIODE	MA152WK
D013	8-719-400-18	DIODE	MA152WK
D015	8-719-104-34	DIODE	1S2836
D016	8-719-104-34	DIODE	1S2836
D102	8-719-800-76	DIODE	1SS226
D103	8-719-800-76	DIODE	1SS226
D104	8-719-104-34	DIODE	1S2836
D105	8-719-400-18	DIODE	MA152WK
D106	8-719-400-18	DIODE	MA152WK
D107	8-719-104-34	DIODE	1S2836
D108	8-719-400-18	DIODE	MA152WK
D109	8-719-400-18	DIODE	MA152WK
D110	8-719-104-34	DIODE	1S2836
D111	8-719-400-18	DIODE	MA152WK
D112	8-719-104-34	DIODE	1S2836
D201	8-719-400-18	DIODE	MA152WK
D203	8-719-105-82	DIODE	RD5. 1M-B2
D301	8-719-400-18	DIODE	MA152WK
D302	8-719-400-18	DIODE	MA152WK
D401	8-719-800-76	DIODE	1SS226
D701	8-719-400-18	DIODE	MA152WK

< IC >

IC001	8-752-816-72	IC	CXP80116-692Q
IC002	8-752-818-14	IC	CXP5046H-255Q
IC003	8-752-815-13	IC	CXP5048H-222Q
IC004	8-759-144-21	IC	uPD75106G-573-1B
IC007	8-759-008-67	IC	MC14066BF
IC008	8-759-937-56	IC	S-8054ALB-LM-T1
IC101	8-752-003-50	IC	CX20035
IC102	8-752-817-64	IC	CXP5048H-244Q
IC103	8-759-925-66	IC	BA6303F
IC104	8-759-981-75	IC	RC3403AM
IC105	8-759-208-11	IC	MC14053BF
IC106	8-759-971-25	IC	MB674169U
IC107	8-759-100-94	IC	uPC358G2
IC108	8-759-008-67	IC	MC14066BF
IC201	8-759-928-56	IC	CXA1042M
IC202	8-759-150-05	IC	uPC324G2-E1
IC203	8-759-208-11	IC	MC14053BF
IC204	8-759-927-46	IC	SN74HC00ANS
IC205	8-759-710-86	IC	NJM2233BM
IC206	8-759-035-93	IC	SC7S32F
IC301	8-759-100-94	IC	uPC358G2
IC302	8-759-208-11	IC	MC14053BF
IC303	8-759-208-11	IC	MC14053BF
IC304	8-759-200-90	IC	TC4538BF
IC305	8-759-927-46	IC	SN74HC00ANS
IC601	8-759-927-94	IC	BU3707F
IC602	8-759-927-52	IC	BA7036LS
IC603	8-759-100-93	IC	uPC393G2
IC604	8-759-150-05	IC	uPC324G2

< TRANSISTOR >

Q002	8-729-901-01	TRANSISTOR	DTC144EK
Q003	8-729-901-06	TRANSISTOR	DTA144EK
Q004	8-729-901-01	TRANSISTOR	DTC144EK
Q005	8-729-901-01	TRANSISTOR	DTC144EK
Q006	8-729-901-01	TRANSISTOR	DTC144EK
Q007	8-729-901-01	TRANSISTOR	DTC144EK
Q008	8-729-901-01	TRANSISTOR	DTC144EK
Q009	8-729-901-01	TRANSISTOR	DTC144EK
Q010	8-729-901-06	TRANSISTOR	DTA144EK
Q011	8-729-901-06	TRANSISTOR	DTA144EK
Q014	8-729-901-01	TRANSISTOR	DTC144EK
Q015	8-729-901-01	TRANSISTOR	DTC144EK
Q018	8-729-901-01	TRANSISTOR	DTC144EK
Q101	8-729-901-06	TRANSISTOR	DTA144EK
Q102	8-729-901-06	TRANSISTOR	DTA144EK
Q103	8-729-901-06	TRANSISTOR	DTA144EK
Q104	8-729-901-01	TRANSISTOR	DTC144EK
Q106	8-729-100-66	TRANSISTOR	2SC1623
Q107	8-729-901-06	TRANSISTOR	DTA144EK
Q108	8-729-901-06	TRANSISTOR	DTA144EK
Q109	8-729-901-06	TRANSISTOR	DTA144EK
Q110	8-729-901-06	TRANSISTOR	DTA144EK
Q111	8-729-100-66	TRANSISTOR	2SC1623
Q112	8-729-901-01	TRANSISTOR	DTC144EK
Q113	8-729-901-01	TRANSISTOR	DTC144EK
Q114	8-729-901-01	TRANSISTOR	DTC144EK
Q115	8-729-901-01	TRANSISTOR	DTC144EK
Q116	8-729-901-06	TRANSISTOR	DTA144EK
Q202	8-729-216-22	TRANSISTOR	2SA1162
Q205	8-729-901-01	TRANSISTOR	DTC144EK
Q209	8-729-901-06	TRANSISTOR	DTA144EK
Q210	8-729-901-01	TRANSISTOR	DTC144EK
Q301	8-729-901-06	TRANSISTOR	DTA144EK
Q302	8-729-901-01	TRANSISTOR	DTC144EK
Q303	8-729-901-01	TRANSISTOR	DTC144EK
Q304	8-729-901-01	TRANSISTOR	DTC144EK
Q305	8-729-901-01	TRANSISTOR	DTC144EK
Q306	8-729-901-06	TRANSISTOR	DTA144EK
Q307	8-729-901-01	TRANSISTOR	DTC144EK
Q308	8-729-901-01	TRANSISTOR	DTC144EK
Q309	8-729-901-01	TRANSISTOR	DTC144EK
Q401	8-729-216-22	TRANSISTOR	2SA1162
Q402	8-729-100-66	TRANSISTOR	2SC1623
Q403	8-729-100-66	TRANSISTOR	2SC1623
Q404	8-729-216-22	TRANSISTOR	2SA1162
Q405	8-729-100-66	TRANSISTOR	2SC1623
Q406	8-729-216-22	TRANSISTOR	2SA1162
Q407	8-729-100-66	TRANSISTOR	2SC1623
Q408	8-729-216-22	TRANSISTOR	2SA1162
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Q411	8-729-100-66	TRANSISTOR	2SC1623
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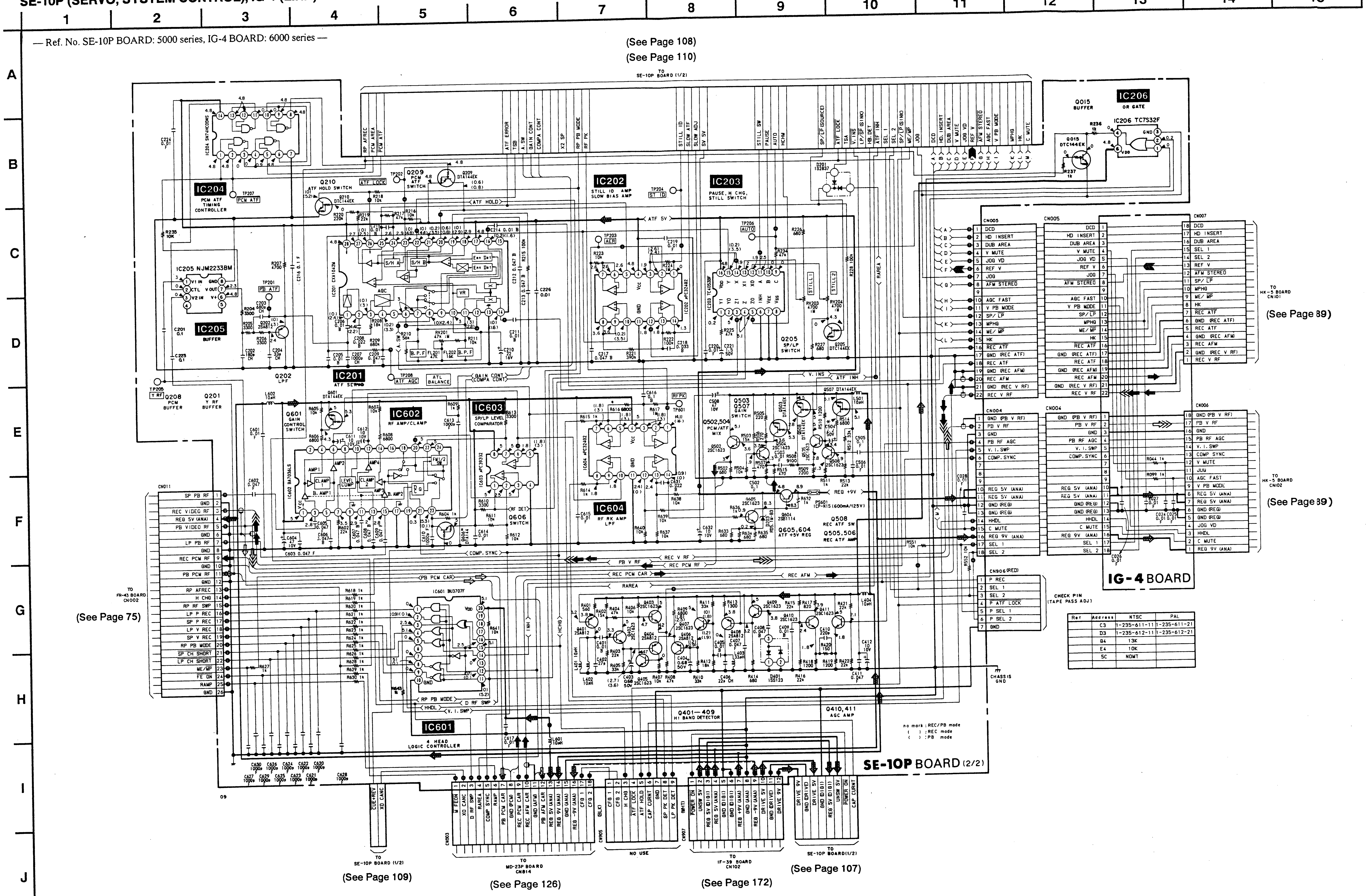
Q503	8-729-901-06	TRANSISTOR	DTA144EK
Q504	8-729-100-66	TRANSISTOR	2SC1623
Q505	8-729-100-66	TRANSISTOR	2SC1623
Q506	8-729-100-66	TRANSISTOR	2SC1623
Q507	8-729-901-06	TRANSISTOR	DTA144EK
Q508	8-729-901-06	TRANSISTOR	DTA144EK
Q601	8-729-901-06	TRANSISTOR	DTA144EK
Q604	8-729-805-25	TRANSISTOR	2SB1121
Q605	8-729-100-66	TRANSISTOR	2SC1623
Q606	8-729-901-06	TRANSISTOR	DTA144EK
Q701	8-729-901-06	TRANSISTOR	DTA144EK
Q702	8-729-901-06	TRANSISTOR	DTA144EK
Q703	8-729-901-01	TRANSISTOR	DTC144EK
Q704	8-729-216-22	TRANSISTOR	2SA1162
Q705	8-729-216-22	TRANSISTOR	2SA1162
Q706	8-729-100-66	TRANSISTOR	2SC1623
Q707	8-729-100-66	TRANSISTOR	2SC1623
Q708	8-729-901-06	TRANSISTOR	DTA144EK
Q709	8-729-901-06	TRANSISTOR	DTA144EK
Q710	8-729-901-06	TRANSISTOR	DTA144EK
Q711	8-729-901-06	TRANSISTOR	DTA144EK
Q712	8-729-901-06	TRANSISTOR	DTA144EK
Q713	8-729-901-01	TRANSISTOR	DTC144EK
Q714	8-729-901-01	TRANSISTOR	DTC144EK

SE-10P (SERVO, SYSTEM CONTROL), IG-4 (LINK) SCHEMATIC DIAGRAMS

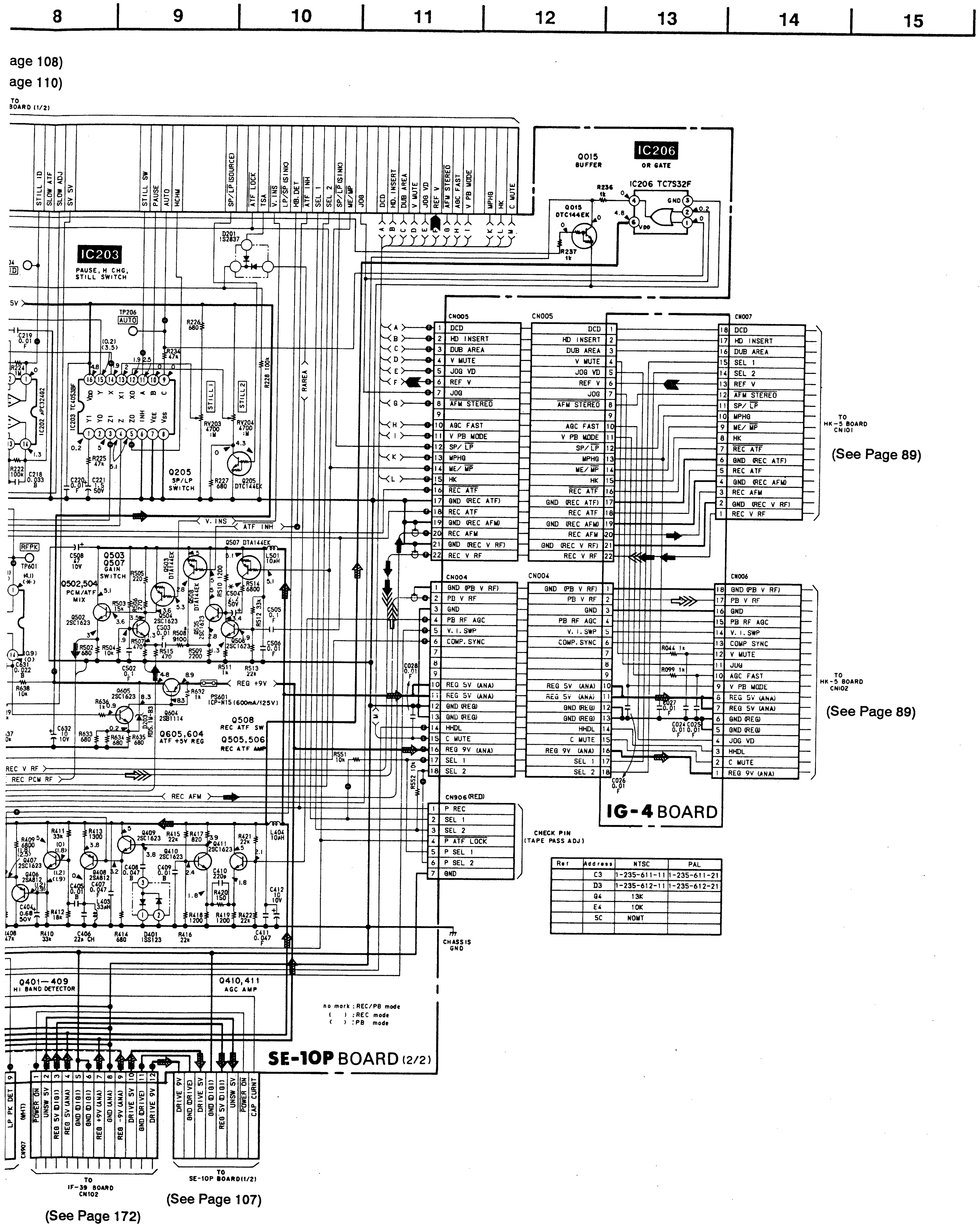
— Ref. No. SE-10P BOARD: 5000 series, IG-4 BOARD: 6000 series —



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J
(See Page 108)
(See Page 110)
TO SE-10P BOARD (1/2)
IC204 PCM ATF TIMING CONTROLLER
IC205 NJM2233BM BUFFER
IC201 ATF SERVO
IC202 STILL ID AMP SLOW BIAS AMP
IC203 PAUSE, H CHG, STILL SWITCH
IC206 OR GATE
IC206 TC7S32F
Q015 BUFFER
Q210 ATF HOLD SWITCH
Q209 PCM ATF SWITCH
Q205 SP/LP SWITCH
Q202 LPF
Q208 PCM BUFFER
Q201 Y RF BUFFER
Q601 GAIN CONTROL SWITCH
IC602 RF AMP/CLAMP
IC603 SP/LP LEVEL COMPARATOR
IC604 RF RK AMP LPF
Q606 SWITCH
Q503 Q507 GAIN SWITCH
Q502,504 PCM/ATF MIX
Q508 REC ATF SW
Q605,604 ATF +5V REG
Q505,506 REC ATF AMP
IC601 BU3707F
IC601 4 HEAD LOGIC CONTROLLER
Q401–409 Hi BAND DETECTOR
Q410, 411 AGC AMP
CN011
TO FR-43 BOARD CN002
(See Page 75)
CN005
CN007
TO HK-5 BOARD CN101
(See Page 89)
CN004
CN006
TO HK-5 BOARD CN102
(See Page 89)
IG-4 BOARD
CN906 (RED)
CHECK PIN (TAPE PASS ADJ)
CHASSIS GND
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
SE-10P BOARD (2/2)
CN003
CN905
NO USE
CN907
TO SE-10P BOARD (1/2)
(See Page 109)
TO MD-23P BOARD CN814
(See Page 126)
TO IF-39 BOARD CN102
(See Page 172)
TO SE-10P BOARD (1/2)
(See Page 107)

Ref	Address	NTSC	PAL
	C3	1-235-611-11	1-235-611-21
	D3	1-235-612-11	1-235-612-21
	B4	13K	
	E4	10K	
	5C	NOMT	

age 108)
age 110)


8
9
10
11
12
13
14
15
TO BOARD (1/2)
IC206
Q015 BUFFER
OR GATE
IC206 TC7S32F
Q015 DTC144EK
IC203
PAUSE, H CHG, STILL SWITCH
IC203 TC4053BF
Q205 SP/LP SWITCH
Q205 DTC144EK
Q503, Q507 GAIN SWITCH
Q502,504 PCM/ATF MIX
Q508 REC ATF SW
Q505,506 REC ATF AMP
Q605,604 ATF +5V REG
CN005
CN004
CN007
CN006
CN906 (RED)
TO HK-5 BOARD CN101
(See Page 89)
TO HK-5 BOARD CN102
(See Page 89)
CHECK PIN (TAPE PASS ADJ)
IG-4 BOARD
CHASSIS GND
Q401–409 HI BAND DETECTOR
Q410,411 AGC AMP
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
SE-10P BOARD (2/2)
TO IF-39 BOARD CN102
(See Page 172)
TO SE-10P BOARD (1/2)
(See Page 107)

Ref	Address	NTSC	PAL
	C3	1-235-611-11	1-235-611-21
	D3	1-235-612-11	1-235-612-21
	G4	13K	
	E4	10K	
	5C	NOMT	

- **SIGNAL PATH**

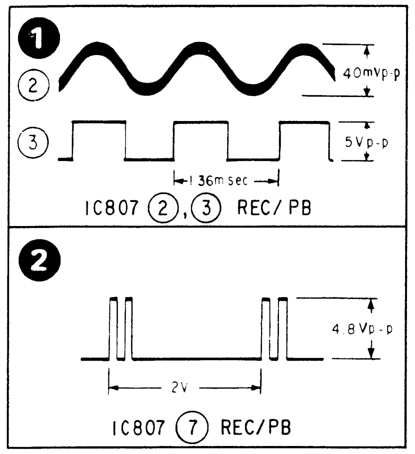
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC			➡≫	➡
PB			⇨≫	⇨

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)			
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)			
Ref. signal	➤		

MD-23P (MOTOR DRIVE), TS-74 (L) (TAPE END SENSOR), TS-74 (R) (TAPE TOP SENSOR) PRINTED WIRING BOARDS

— Ref. No. MD-23P BOARD: 1000 series, TS-74(L) BOARD: 1000 series, TS-74(R) BOARD: 2000 series —

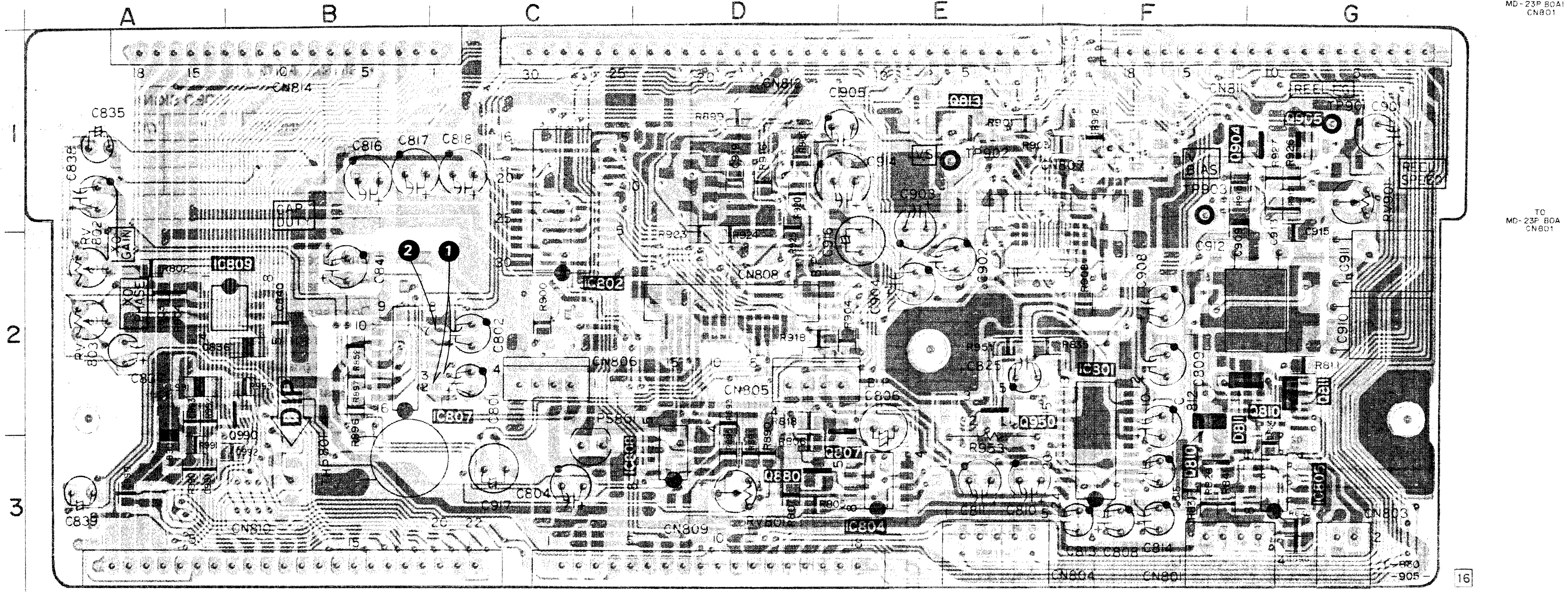
MD-23P BOARD



MD-23P BOARD (COMPONENT SIDE)

D810	F-3
D811	F-3
IC801	F-2
IC802	C-2
IC804	E-3
IC805	G-3
IC807	B-2
IC808	D-3
IC809	A-2
Q807	E-3
Q810	G-2
Q811	G-2
Q813	E-1
Q880	D-3
Q904	F-1
Q905	G-1
Q950	E-2
Q990	B-2

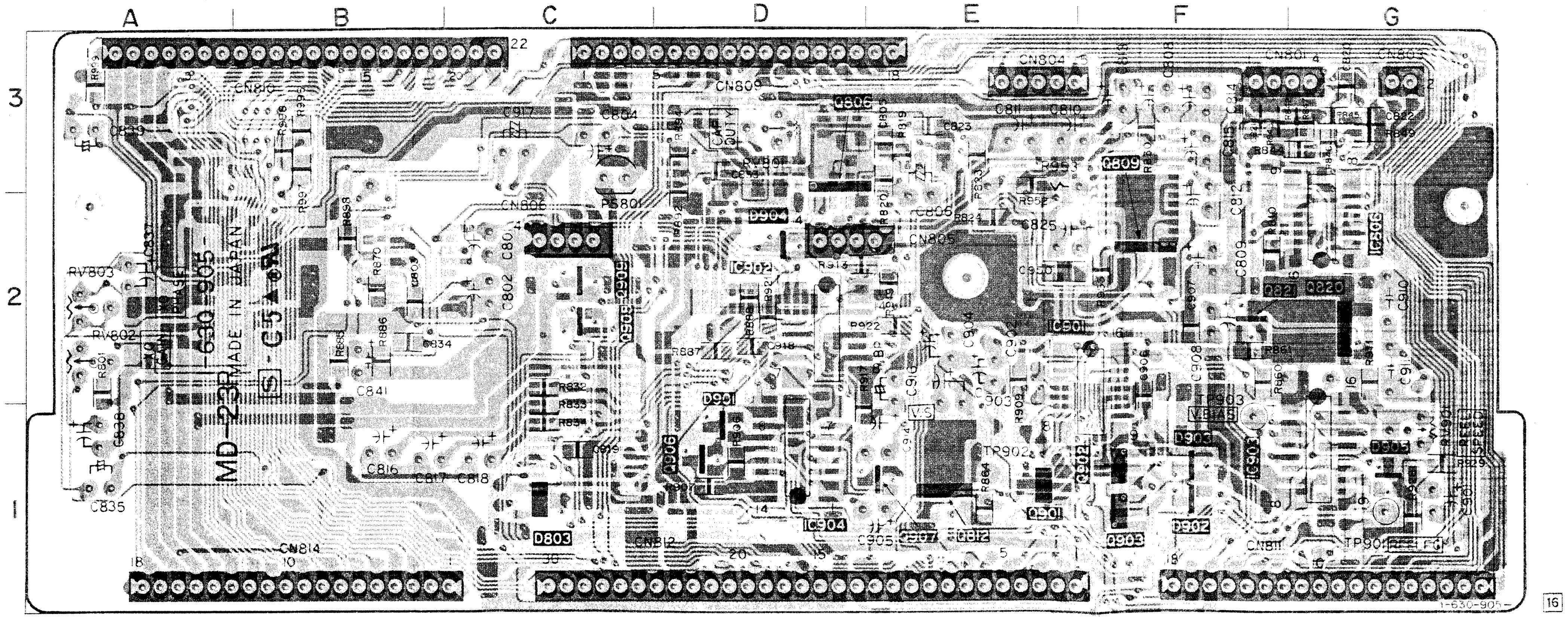
MD-23P BOARD (COMPONENT SIDE)


A
B
C
D
E
F
G
1
2
3
TO
MD-23P BOARD
CN801
TO
MD-23P BOA
CN801
IC809
IC802
IC807
IC801
IC804
Q950
Q880
Q807
Q813
Q904
Q905
Q990
D810
D811
CN805
CN806
CN808
CN809
CN810
CN811
CN812
CN814
CN803
CN804
CN801
VS
BIAS
REEL FG
REEL SPEED
CAP OUT
GAIN
DIP
16

MD-23P BOARD (CONDUCTOR SIDE)

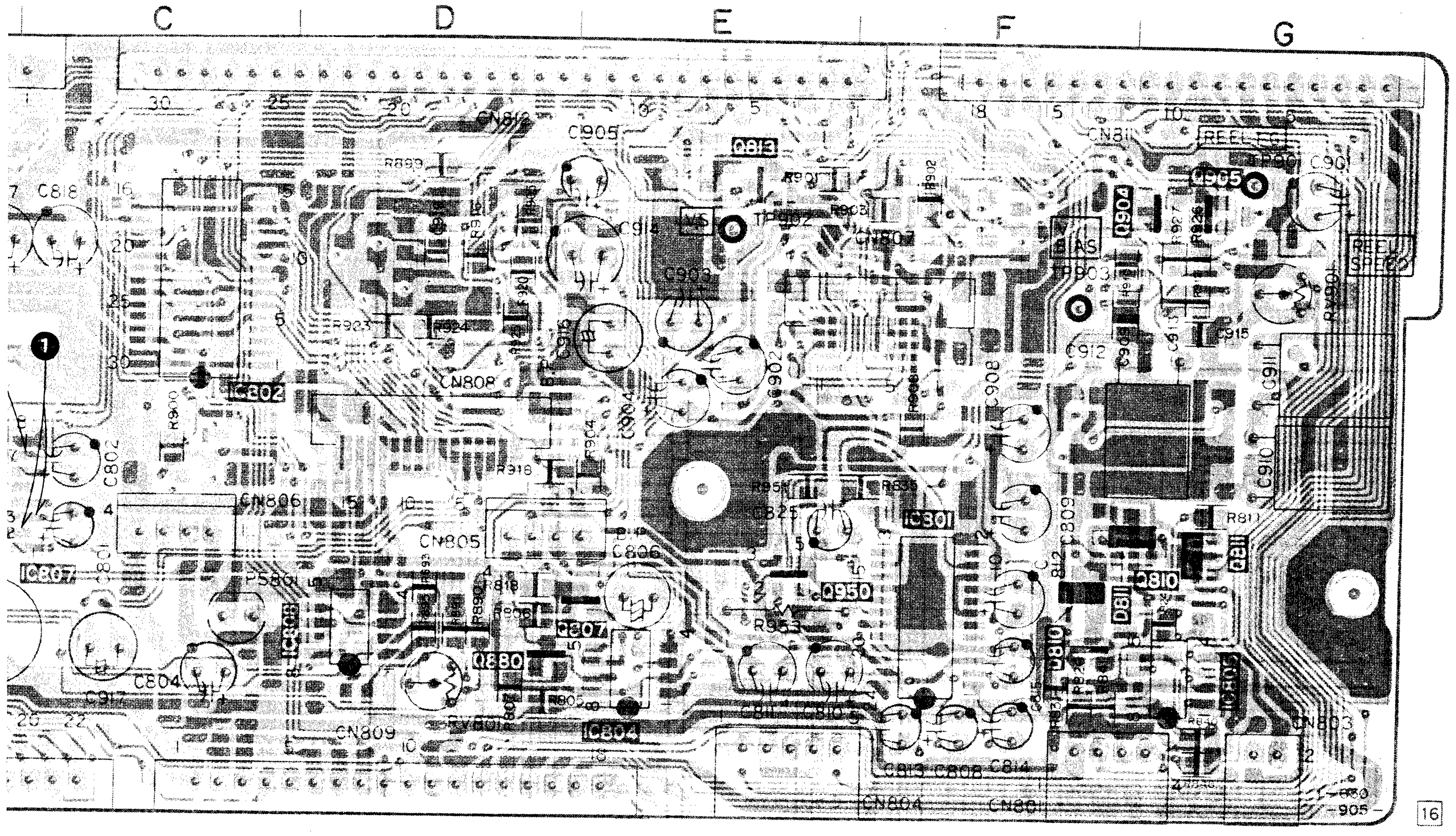
D803	C-1
D901	D-1
D902	F-1
D903	F-1
D904	D-2
D905	G-1
IC806	G-2
IC901	F-2
IC902	D-2
IC903	F-1
IC904	D-1
Q806	D-3
Q809	F-3
Q812	E-1
Q820	G-2
Q821	F-2
Q901	E-1
Q902	F-1
Q903	F-1
Q906	D-1
Q907	E-1
Q908	C-2
Q909	C-2

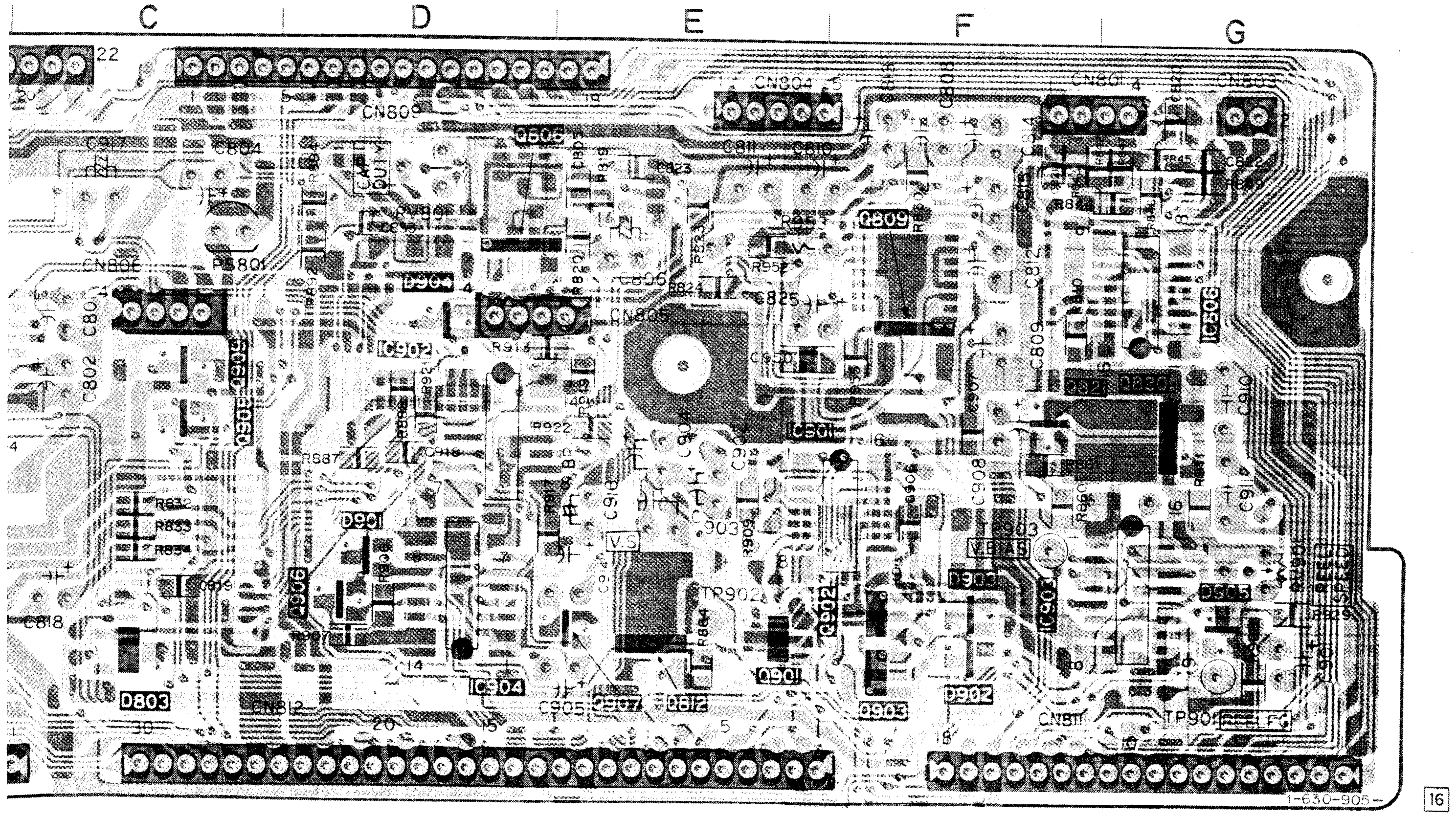
MD-23P BOARD (CONDUCTOR SIDE)

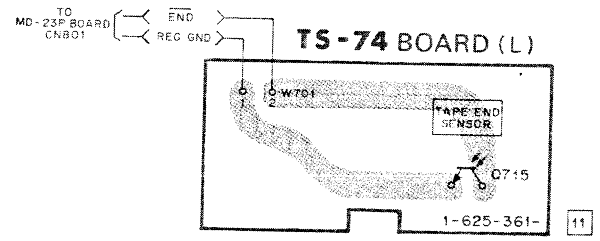

A
B
C
D
E
F
G
3
2
1
MD-23P
1-630-905-
MADE IN JAPAN
S
IC901
IC902
IC903
IC904
IC806
Q806
Q809
Q812
Q820
Q821
Q901
Q902
Q903
Q906
Q907
Q908
Q909
D803
D901
D902
D903
D904
D905
CN804
CN801
CN809
CN810
CN811
CN812
CN814
CN805
CN806
RV802
RV803
VS
VBIAS
TP902
TP901
16

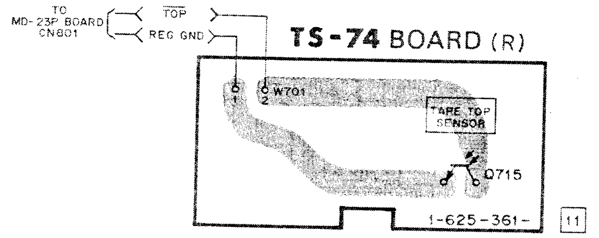
(TAPE TOP SENSOR) PRINTED WIRING BOARDS

)0 series —


C
D
E
F
G
IC802
IC801
IC807
IC804
Q813
Q880
Q950
Q810
Q811
CN805
CN806
CN808
CN809
CN811
CN803
CN804
REEL FG
REEL SPEED
V.BIAS
TP903
1-630-905-
16


C
D
E
F
G
CN804
CN801
CN809
CN806
CN811
Q806
Q809
Q820
IC806
IC902
IC904
IC901
D901
D902
D903
D905
D803
Q901
Q902
Q903
Q906
Q812
TP902
TP903
V.BIAS
TP901
REEL FG
1-630-905-
16


TS-74 BOARD (L)
TO
MD-23P BOARD
CN801
END
REG GND
W701
1
2
TAPE END SENSOR
Q715
1-625-361-
11


TS-74 BOARD (R)
TO
MD-23P BOARD
CN801
TOP
REG GND
W701
1
2
TAPE TOP SENSOR
Q715
1-625-361-
11

MD-23 (P) BOARD, COMPLETE
****

< DIODE >

D803	8-719-200-27	DIODE	E10DS2
D803	8-719-200-27	DIODE	MA152WK
D810	8-719-400-18	DIODE	E10DS2
D811	8-719-200-27	DIODE	MA152WK
D901	8-719-400-18	DIODE	MA152WK
D902	8-719-400-18	DIODE	MA152WK
D903	8-719-400-18	DIODE	1SS226
D904	8-719-800-76	DIODE	MA152WK
D905	8-719-400-18	DIODE	MA152WK

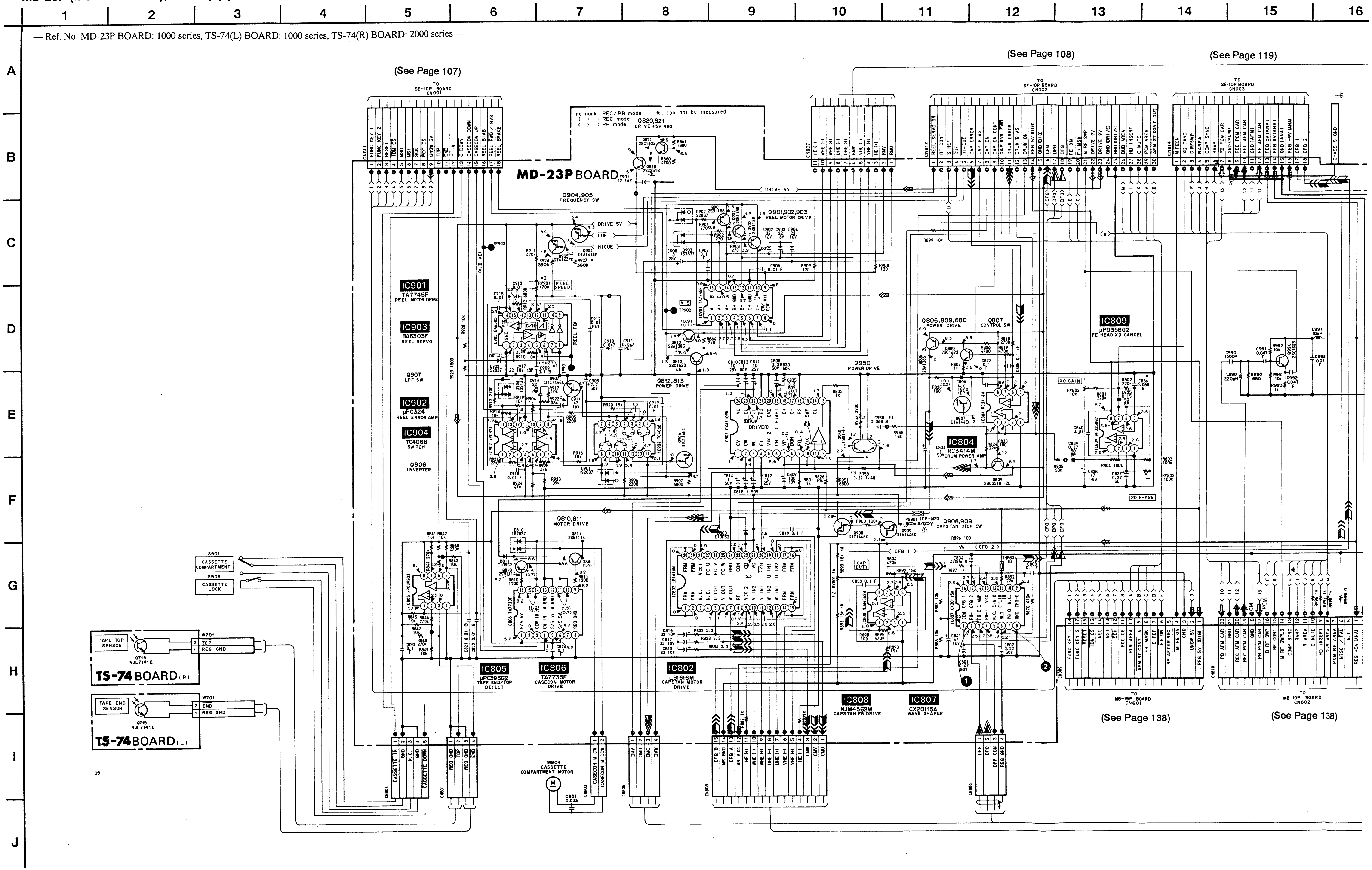
< IC >

IC801	8-752-037-08	IC	CXA1109M
IC802	8-759-802-79	IC	LB1615M
IC804	8-759-981-82	IC	RC3414M
IC805	8-759-100-93	IC	uPC393G2
IC806	8-759-207-00	IC	TA7733F
IC807	8-759-107-68	IC	CX20115A
IC808	8-759-700-62	IC	NJM4562D
IC809	8-759-100-94	IC	uPC358G2
IC901	8-759-207-50	IC	TA7745F
IC902	8-759-150-05	IC	uPC324G2
IC903	8-759-925-66	IC	BA6303F
IC904	8-759-008-67	IC	MC14066BF

< TRANSISTOR >

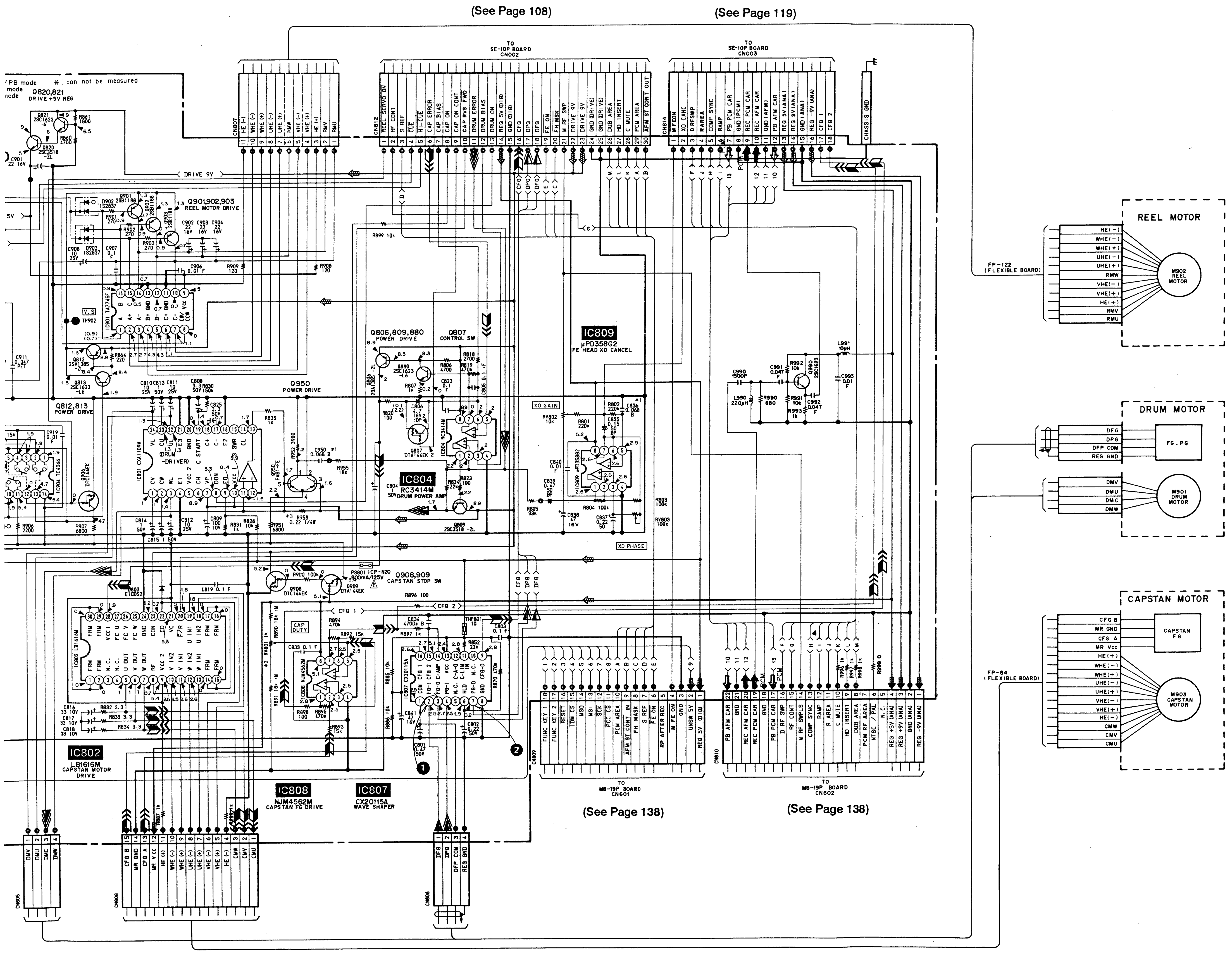
Q806	8-729-111-14	TRANSISTOR	2SA1385-Z-L
Q807	8-729-901-06	TRANSISTOR	DTA144EK
Q809	8-729-111-95	TRANSISTOR	2SC3518
Q810	8-729-805-25	TRANSISTOR	2SB1121
Q811	8-729-805-25	TRANSISTOR	2SB1121
Q812	8-729-111-14	TRANSISTOR	2SA1385-Z-L
Q813	8-729-100-66	TRANSISTOR	2SC1623
Q820	8-729-111-95	TRANSISTOR	2SC3518
Q821	8-729-100-66	TRANSISTOR	2SC1623
Q880	8-729-100-66	TRANSISTOR	2SC1623
Q901	8-729-920-82	TRANSISTOR	2SB1188-QR
Q902	8-729-920-82	TRANSISTOR	2SB1188-QR
Q903	8-729-920-82	TRANSISTOR	2SB1188-QR
Q904	8-729-901-06	TRANSISTOR	DTA144EK
Q905	8-729-901-06	TRANSISTOR	DTA144EK
Q906	8-729-901-01	TRANSISTOR	DTC144EK
Q907	8-729-901-01	TRANSISTOR	DTC144EK
Q908	8-729-901-01	TRANSISTOR	DTC144EK
Q909	8-729-901-06	TRANSISTOR	DTA144EK
Q950	8-729-903-97	TRANSISTOR	FMS1FE
Q990	8-729-100-66	TRANSISTOR	2SC1623

MD-23P (MOTOR DRIVE), TS-74 (L) (TAPE END SENSOR), TS-74 (R) (TAPE TOP SENSOR) SCHEMATIC DIAGRAMS



— Ref. No. MD-23P BOARD: 1000 series, TS-74(L) BOARD: 1000 series, TS-74(R) BOARD: 2000 series —

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
(See Page 107)
TO SE-10P BOARD CN001
(See Page 108)
TO SE-10P BOARD CN002
(See Page 119)
TO SE-10P BOARD CN003
MD-23P BOARD
no mark : REC/PB mode * : can not be measured
( ) : REC mode
< > : PB mode
Q820,821 DRIVE +5V REG
Q904,905 FREQUENCY SW
Q901,902,903 REEL MOTOR DRIVE
IC901 TA7745F REEL MOTOR DRIVE
IC903 BA6303F REEL SERVO
Q907 LPF SW
IC902 µPC324 REEL ERROR AMP
IC904 TC4066 SWITCH
Q906 INVERTER
Q812,813 POWER DRIVE
Q950 POWER DRIVE
Q806,809,880 POWER DRIVE
Q807 CONTROL SW
IC804 RC3414M DRUM POWER AMP
IC809 µPD358G2 FE HEAD XO CANCEL
XO GAIN
XO PHASE
Q810,811 MOTOR DRIVE
Q908,909 CAPSTAN STOP SW
S901 CASSETTE COMPARTMENT
S903 CASSETTE LOCK
TAPE TOP SENSOR
Q715 NJL7141E
TS-74 BOARD (R)
TAPE END SENSOR
Q715 NJL7141E
TS-74 BOARD (L)
IC805 µPC393G2 TAPE END/TOP DETECT
IC806 TA7733F CASECON MOTOR DRIVE
IC802 LB1616M CAPSTAN MOTOR DRIVE
IC808 NJM4562M CAPSTAN FG DRIVE
IC807 CX20115A WAVE SHAPER
M904 CASSETTE COMPARTMENT MOTOR
TO MB-19P BOARD CN601
(See Page 138)
TO MB-19P BOARD CN602
(See Page 138)
CN804
CN801
CN803
CN805
CN808
CN806


(See Page 108)
TO SE-10P BOARD CN002
(See Page 119)
TO SE-10P BOARD CN003
CHASSIS GND
Q820,821 DRIVE +5V REG
Q901,902,903 REEL MOTOR DRIVE
DRIVE 9V
IC901 TA7745P
Q812,813 POWER DRIVE
IC801 CXA1109M (DRUM -DRIVER)
Q950 POWER DRIVE
Q806,809,880 POWER DRIVE
Q807 CONTROL SW
IC804 RC3414M DRUM POWER AMP
IC809 µPD358G2 FE HEAD XD CANCEL
XD GAIN
XD PHASE
Q908,909 CAPSTAN STOP SW
CAP DUTY
IC802 LB1616M CAPSTAN MOTOR DRIVE
IC808 NJM4562M CAPSTAN FG DRIVE
IC807 CX20115A WAVE SHAPER
TO MB-19P BOARD CN601
(See Page 138)
TO MB-19P BOARD CN602
(See Page 138)
REEL MOTOR
M902 REEL MOTOR
FP-122 (FLEXIBLE BOARD)
DRUM MOTOR
FG.PG
M901 DRUM MOTOR
CAPSTAN MOTOR
CAPSTAN FG
M903 CAPSTAN MOTOR
FP-84 (FLEXIBLE BOARD)
CN805
CN808
CN806
CN807
CN812
CN814
CN809
CN810

- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC				➡
PB				⇨

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▷▷	
Drum servo (speed and phase)		▷▷▷	
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)		➤⋙	
Ref. signal			

RS-31 (LOADING MOTOR DRIVE RELL SENSOR), LD-1 (TAPE SENSOR) PRINTED WIRING BOARDS

— Ref. No. RS-31 BOARD: 6000 series, LD-1 BOARD: 6000 series —

- MS-4 and LS-9 boards are replaced as blocks, so that there PRINTED WIRING BOARDS are omitted.

RS-31 BOARD (COMPONENT SIDE)

D320	B-2
D321	A-1
IC301	D-1
IC302	C-1
Q301	A-2
Q302	A-1
Q303	A-1
Q304	A-1
Q305	D-2
Q306	B-2
Q307	B-1

RS-31 BOARD, COMPLETE
****

< DIODE >

D320	8-719-800-76	DIODE	1SS226
D321	8-719-800-76	DIODE	1SS226

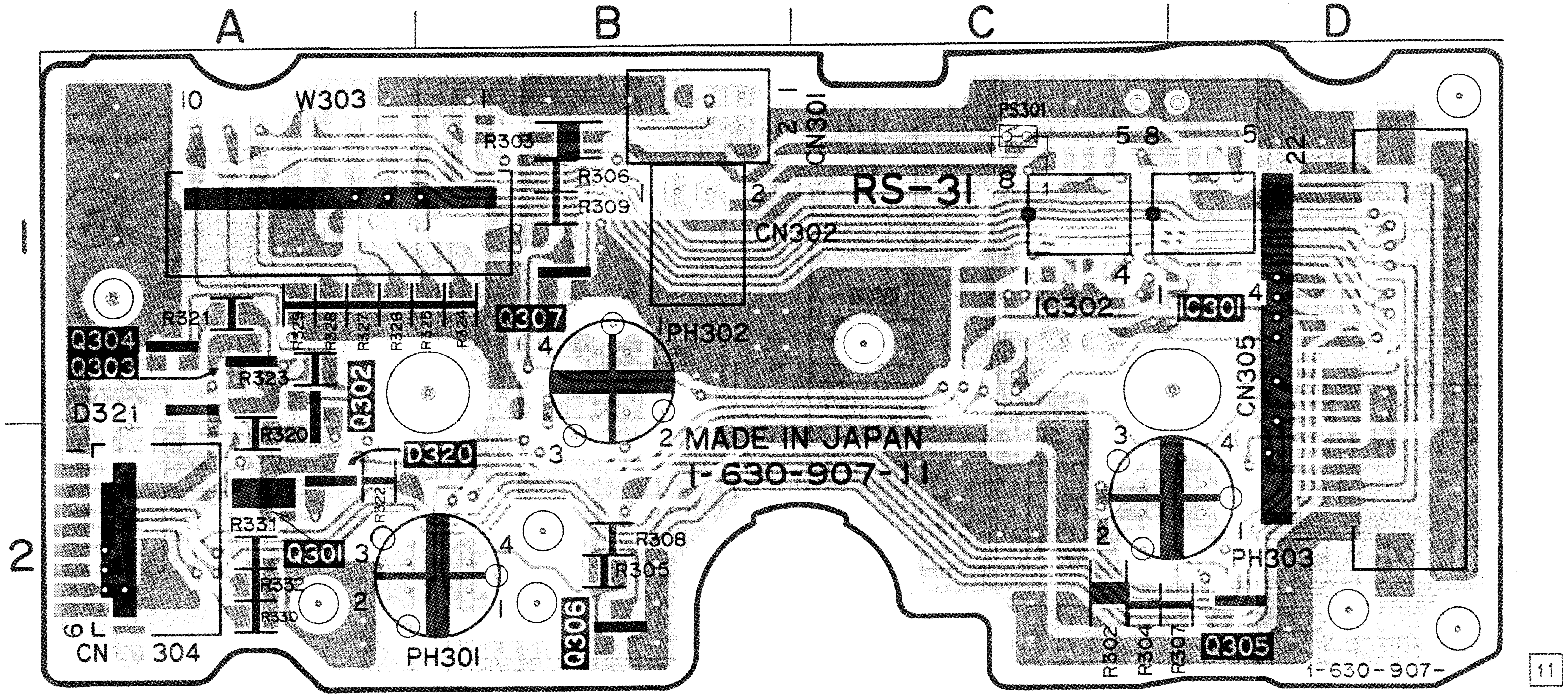
< IC >

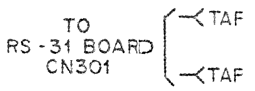
IC301	8-759-908-81	IC	MB3763PF
IC302	8-759-908-81	IC	MB3763PF

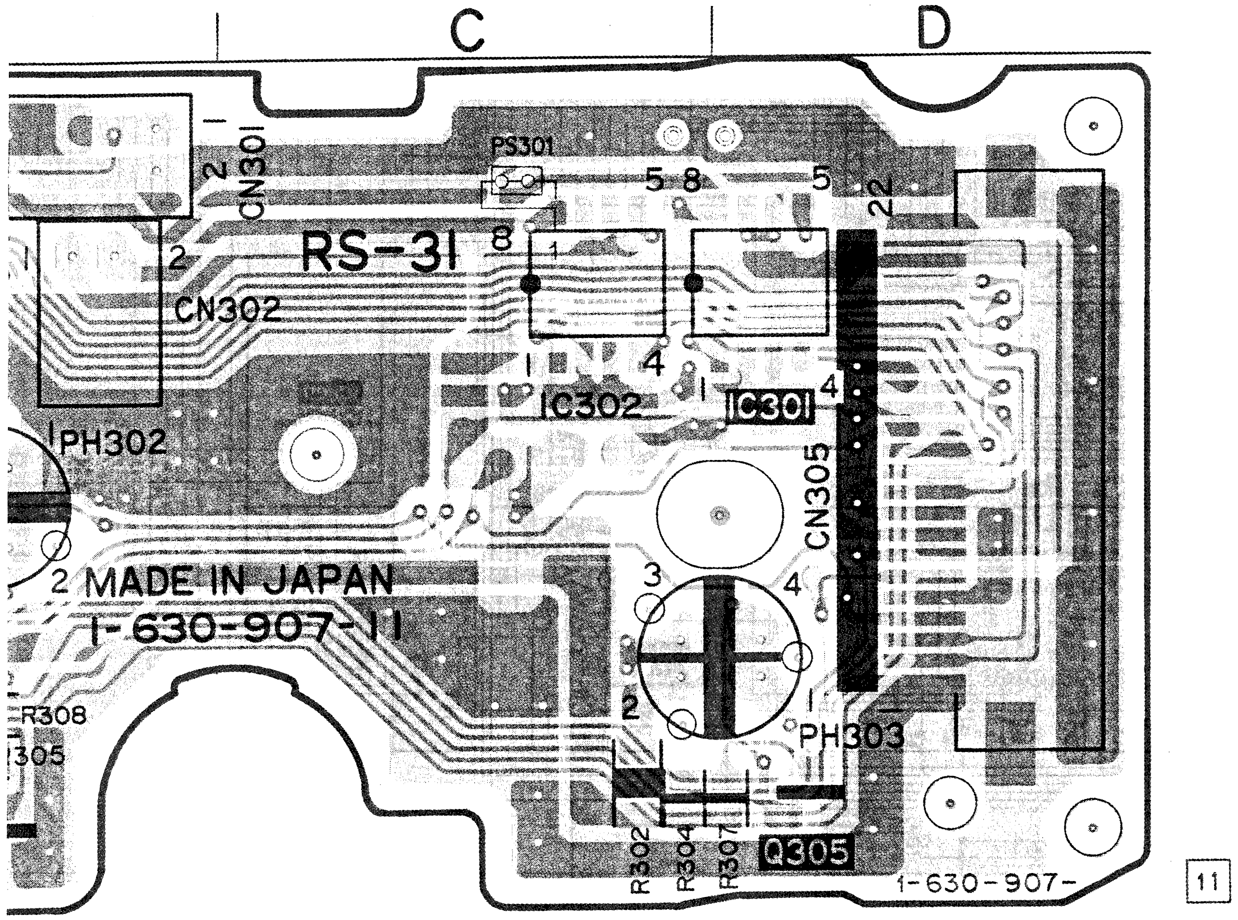
< TRANSISTOR >

Q301	8-729-805-25	TRANSISTOR	2SB1121
Q302	8-729-216-22	TRANSISTOR	2SA1162
Q303	8-729-216-22	TRANSISTOR	2SA1162
Q304	8-729-216-22	TRANSISTOR	2SA1162
Q305	8-729-901-01	TRANSISTOR	DTC144EK
Q306	8-729-901-01	TRANSISTOR	DTC144EK
Q307	8-729-901-01	TRANSISTOR	DTC144EK

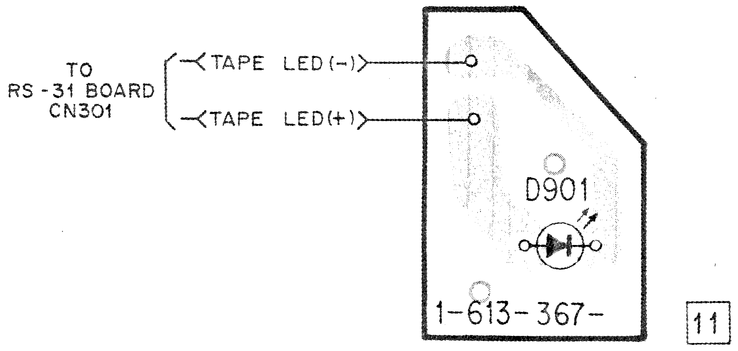
RS-31 BOARD (COMPONENT SIDE)


A
B
C
D
1
2
10
W303
R303
R306
R309
CN301
CN302
PS301
RS-31
IC302
IC301
CN305
22
Q307
PH302
R321
R329
R328
R327
R326
R325
R324
Q304
Q303
R323
Q302
D321
R320
D320
R322
R331
Q301
R332
R330
PH301
R308
R305
Q306
CN 304
MADE IN JAPAN
1-630-907-11
PH303
R302
R304
R307
Q305
1-630-907-
11


TO
RS-31 BOARD
CN301
TAF
TAF


C
D
RS-31
CN301
CN302
PS301
IC302
IC301
CN305
PH302
PH303
2 MADE IN JAPAN
1-630-907-11
R308
R302
R304
R307
Q305
1-630-907-
11

LD-1 BOARD (CONDUCTOR SIDE)


TO
RS-31 BOARD
CN301
TAPE LED(-)
TAPE LED(+)
D901
1-613-367-
11

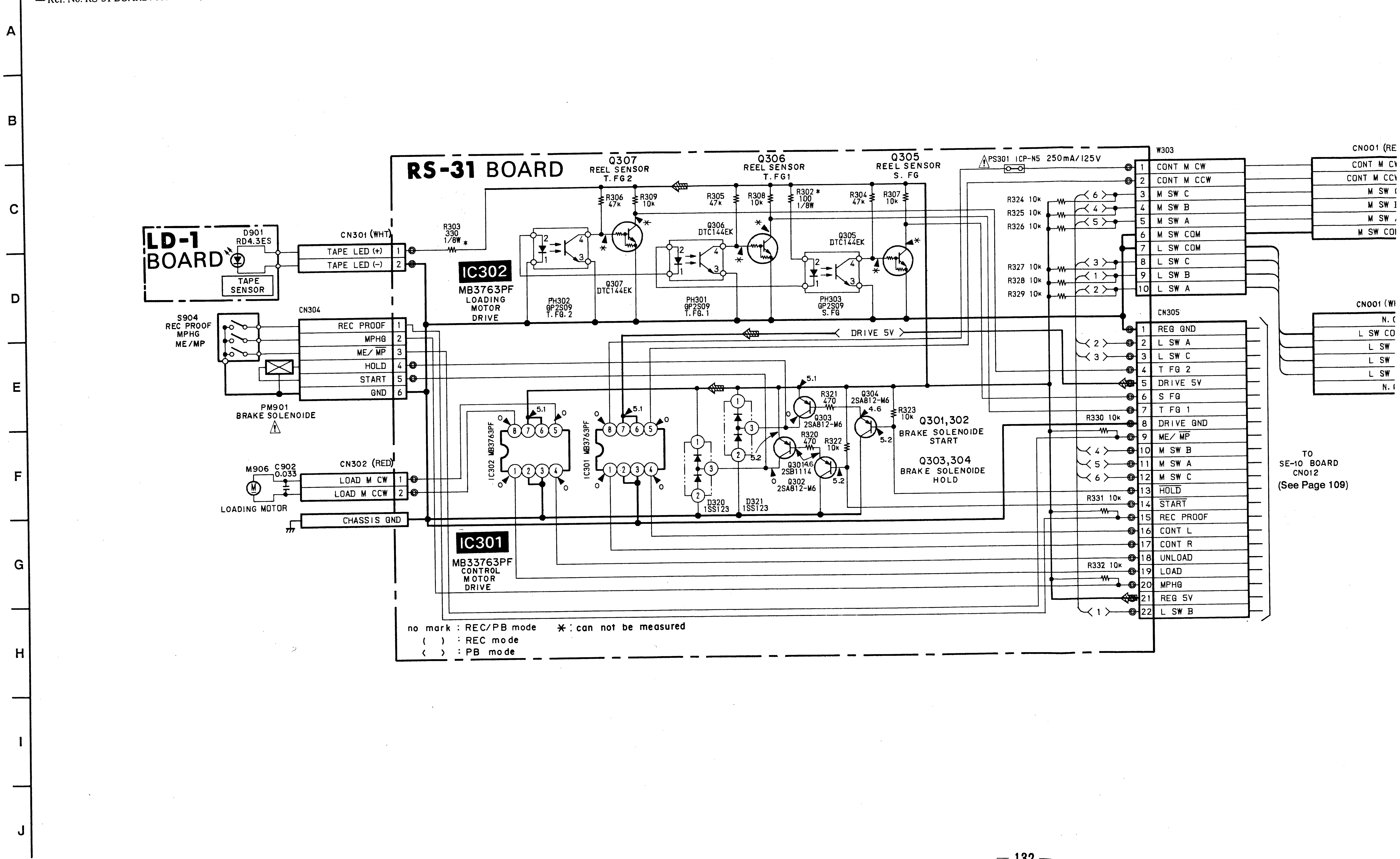
LD-1 BOARD, COMPLETE
****

< DIODE >

D901	8-719-928-54	DIODE	GL-450S

RS-31 (LOADING MOTOR DRIVE RELL SENSOR), LD-1 (TAPE SENSOR), MS-4 (CONTROL MOTOR/DRIVE SWITCH), LS-9 (LOADING SWITCH) SCHEMATIC DIAGRAMS

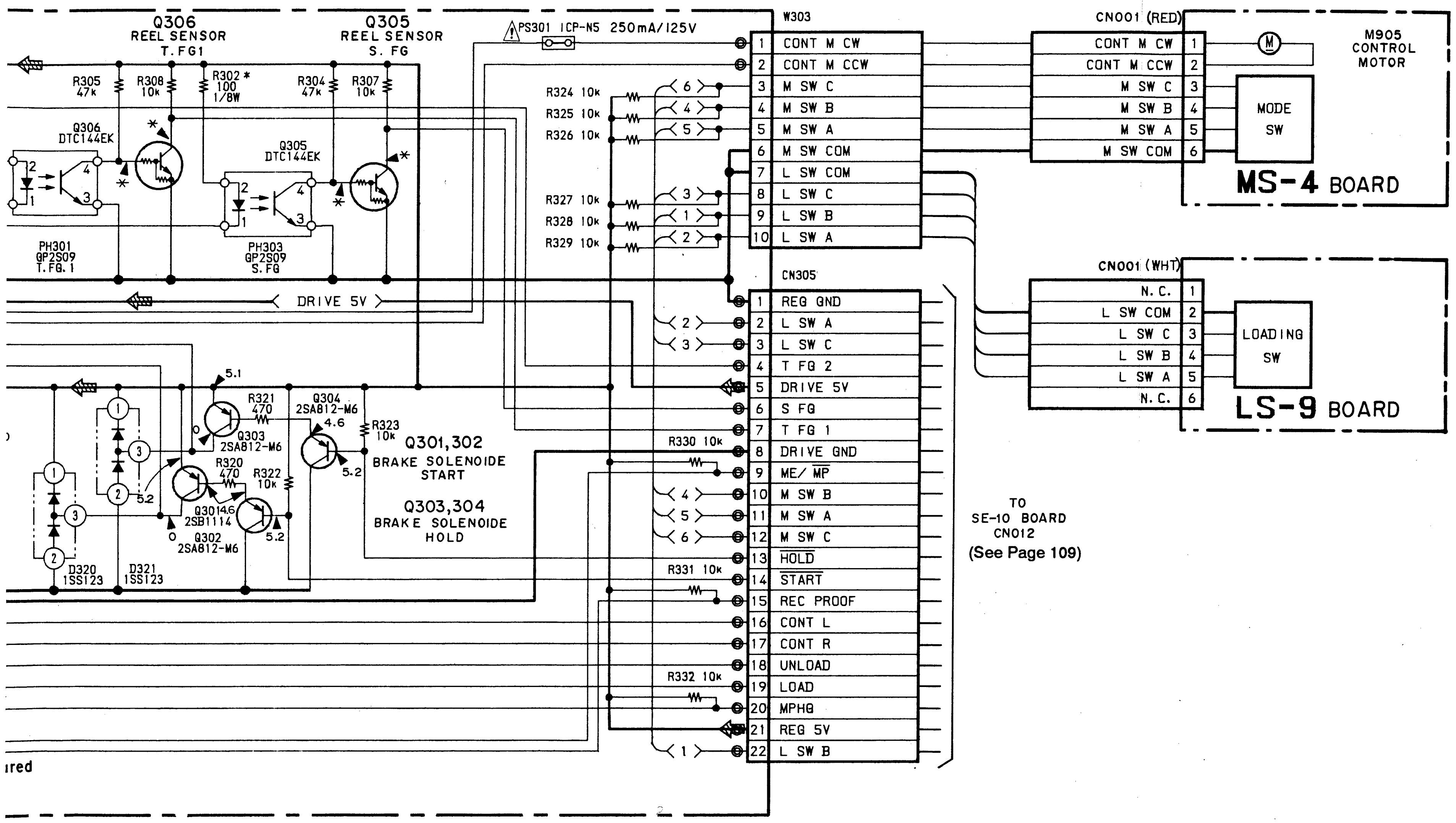
— Ref. No. RS-31 BOARD: 6000 series, LD-1 BOARD: 6000 series —



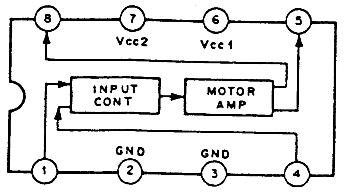
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
LD-1 BOARD
D901 RD4.3ES
TAPE SENSOR
CN301 (WHT)
TAPE LED (+) 1
TAPE LED (-) 2
RS-31 BOARD
Q307 REEL SENSOR T.FG2
Q306 REEL SENSOR T.FG1
Q305 REEL SENSOR S. FG
R303 330 1/8W *
R306 47k
R309 10k
R305 47k
R308 10k
R302 * 100 1/8W
R304 47k
R307 10k
Q306 DTC144EK
Q305 DTC144EK
Q307 DTC144EK
PH302 GP2S09 T.FG.2
PH301 GP2S09 T.FG.1
PH303 GP2S09 S.FG
IC302 MB3763PF LOADING MOTOR DRIVE
PS301 ICP-N5 250mA/125V
R324 10k
R325 10k
R326 10k
R327 10k
R328 10k
R329 10k
W303
1 CONT M CW
2 CONT M CCW
3 M SW C
4 M SW B
5 M SW A
6 M SW COM
7 L SW COM
8 L SW C
9 L SW B
10 L SW A
CN001 (RE
CONT M C
CONT M CC
M SW
M SW
M SW
M SW CO
S904 REC PROOF MPHG ME/MP
CN304
REC PROOF 1
MPHG 2
ME/MP 3
HOLD 4
START 5
GND 6
PM901 BRAKE SOLENOIDE
DRIVE 5V
5.1
0
IC302 MB3763PF
IC301 MB3763PF
R321 470
Q304 2SA812-M6
4.6
R323 10k
Q303 2SA812-M6
R320 470
R322 10k
Q301 4.6 2SB1114
Q302 2SA812-M6
5.2
D320 1SS123
D321 1SS123
Q301,302 BRAKE SOLENOIDE START
Q303,304 BRAKE SOLENOIDE HOLD
M906 C902 0.033
LOADING MOTOR
CN302 (RED)
LOAD M CW 1
LOAD M CCW 2
CHASSIS GND
IC301 MB33763PF CONTROL MOTOR DRIVE
R330 10k
R331 10k
R332 10k
CN305
1 REG GND
2 L SW A
3 L SW C
4 T FG 2
5 DRIVE 5V
6 S FG
7 T FG 1
8 DRIVE GND
9 ME/MP
10 M SW B
11 M SW A
12 M SW C
13 HOLD
14 START
15 REC PROOF
16 CONT L
17 CONT R
18 UNLOAD
19 LOAD
20 MPHG
21 REG 5V
22 L SW B
CN001 (WI
N.
L SW CO
L SW
L SW
L SW
N.
TO SE-10 BOARD CN012
(See Page 109)
no mark : REC/PB mode
( ) : REC mode
〈 〉 : PB mode
✱ : can not be measured

VITCH), LS-9 (LOADING SWITCH) SCHEMATIC DIAGRAMS

8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22


Q306
REEL SENSOR
T.FG1
Q305
REEL SENSOR
S. FG
R305 47k
R308 10k
R302 * 100 1/8W
R304 47k
R307 10k
Q306 DTC144EK
Q305 DTC144EK
PH301 GP2S09 T.FG.1
PH303 GP2S09 S.FG
DRIVE 5V
PS301 ICP-N5 250mA/125V
R324 10k
R325 10k
R326 10k
R327 10k
R328 10k
R329 10k
W303
1 CONT M CW
2 CONT M CCW
3 M SW C
4 M SW B
5 M SW A
6 M SW COM
7 L SW COM
8 L SW C
9 L SW B
10 L SW A
CN001 (RED)
1 CONT M CW
2 CONT M CCW
3 M SW C
4 M SW B
5 M SW A
6 M SW COM
M905 CONTROL MOTOR
M
MODE SW
MS-4 BOARD
CN001 (WHT)
1 N. C.
2 L SW COM
3 L SW C
4 L SW B
5 L SW A
6 N. C.
LOADING SW
LS-9 BOARD
CN305
1 REG GND
2 L SW A
3 L SW C
4 T FG 2
5 DRIVE 5V
6 S FG
7 T FG 1
8 DRIVE GND
9 ME/ MP
10 M SW B
11 M SW A
12 M SW C
13 HOLD
14 START
15 REC PROOF
16 CONT L
17 CONT R
18 UNLOAD
19 LOAD
20 MPHG
21 REG 5V
22 L SW B
R330 10k
R331 10k
R332 10k
TO SE-10 BOARD CN012
(See Page 109)
5.1
R321 470
Q303 2SA812-M6
Q304 2SA812-M6
4.6
R323 10k
Q301,302
BRAKE SOLENOIDE START
Q303,304
BRAKE SOLENOIDE HOLD
R320 470
R322 10k
Q301 2SB1114
Q302 2SA812-M6
5.2
0
D320 1SS123
D321 1SS123
ired

IC301, IC302 (MB3763PF)


Vcc2
Vcc1
INPUT CONT
MOTOR AMP
GND
GND
1
2
3
4
5
6
7
8

MB-19P (VTR FUNCTION SWITCH/AUDIO PROCESS) PRINTED WIRING BOARD

— Ref. No. MB-19P BOARD: 7000 series, PA-27 BOARD: 7000 series —

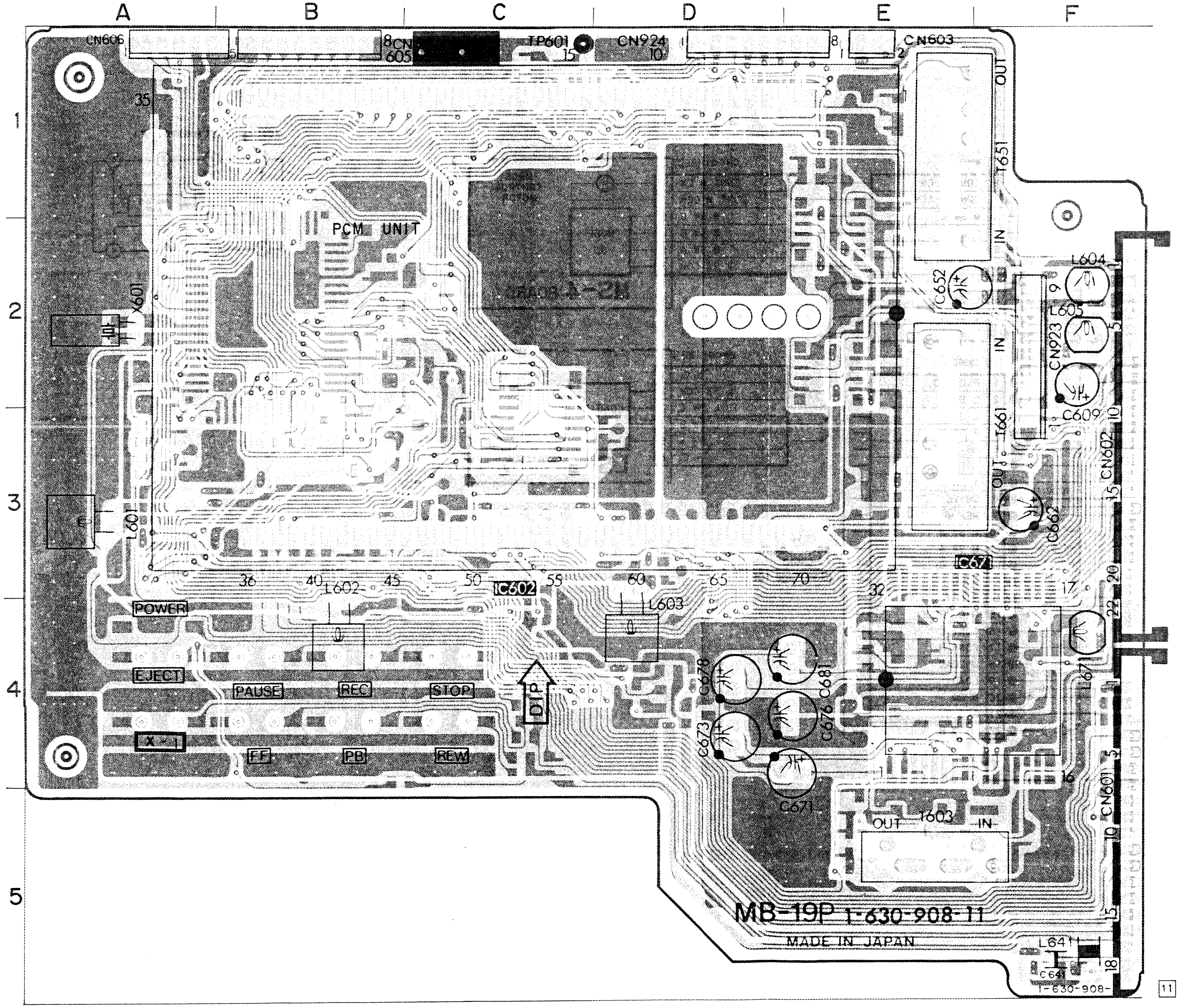
MB-19P BOARD (COMPONENT SIDE)

IC602	C-3
IC671	F-4

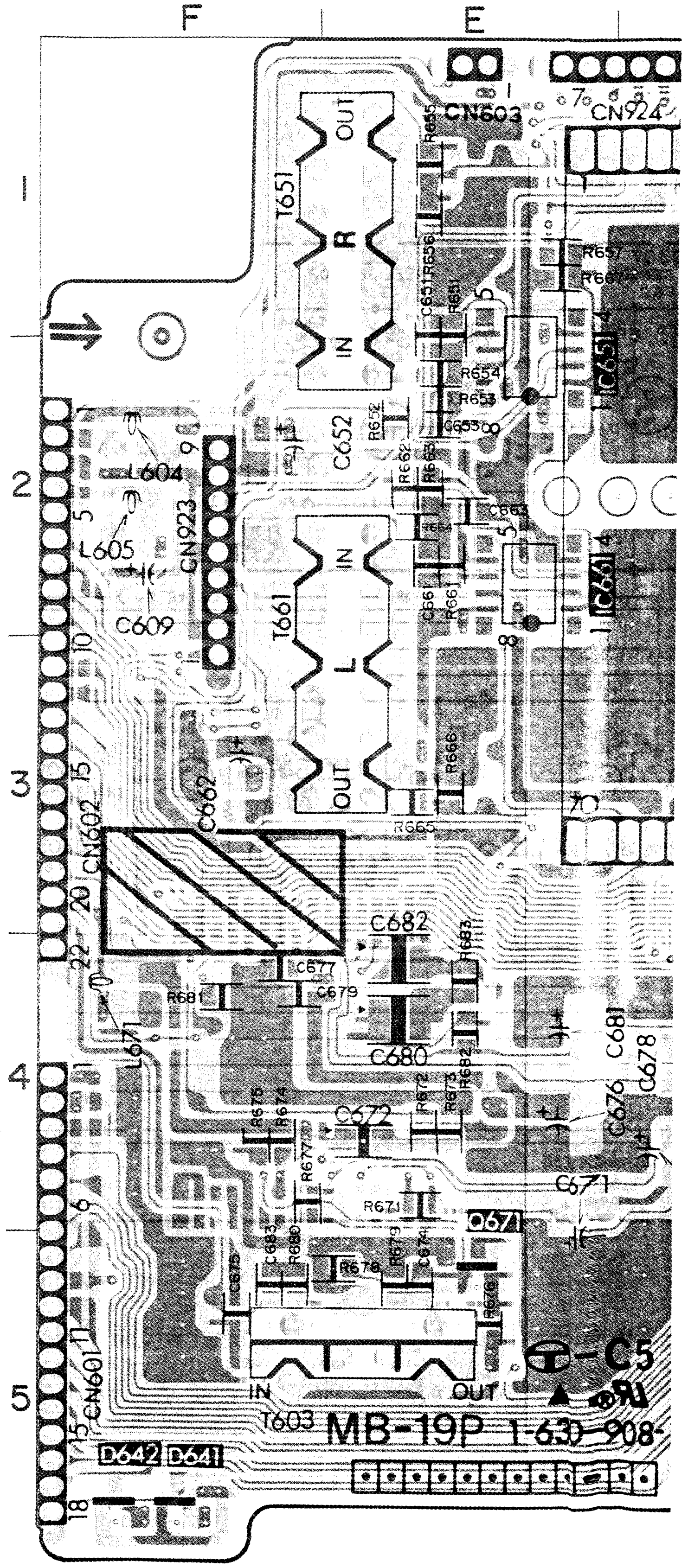
MB-19P BOARD (CONDUCTOR SIDE)

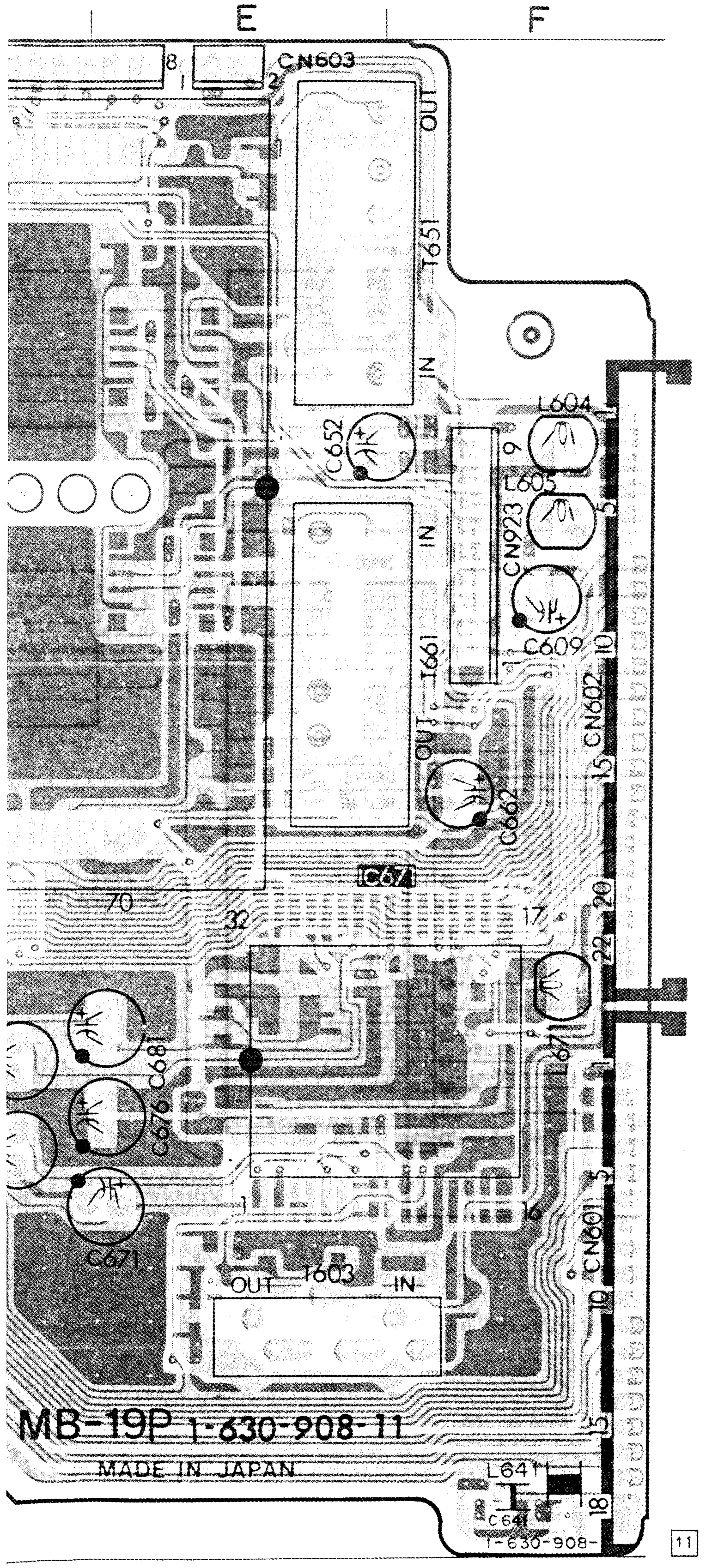
D601	C-4
D602	C-2
D603	C-2
D604	C-1
D641	F-5
D642	F-5
IC601	B-2
IC603	C-2
IC651	E-2
IC661	E-2
Q601	B-3
Q602	A-3
Q603	A-3
Q604	C-2
Q605	C-2
Q606	C-3
Q607	B-3
Q608	D-4
Q609	D-4
Q671	E-5

MB-19P BOARD (COMPONENT SIDE)

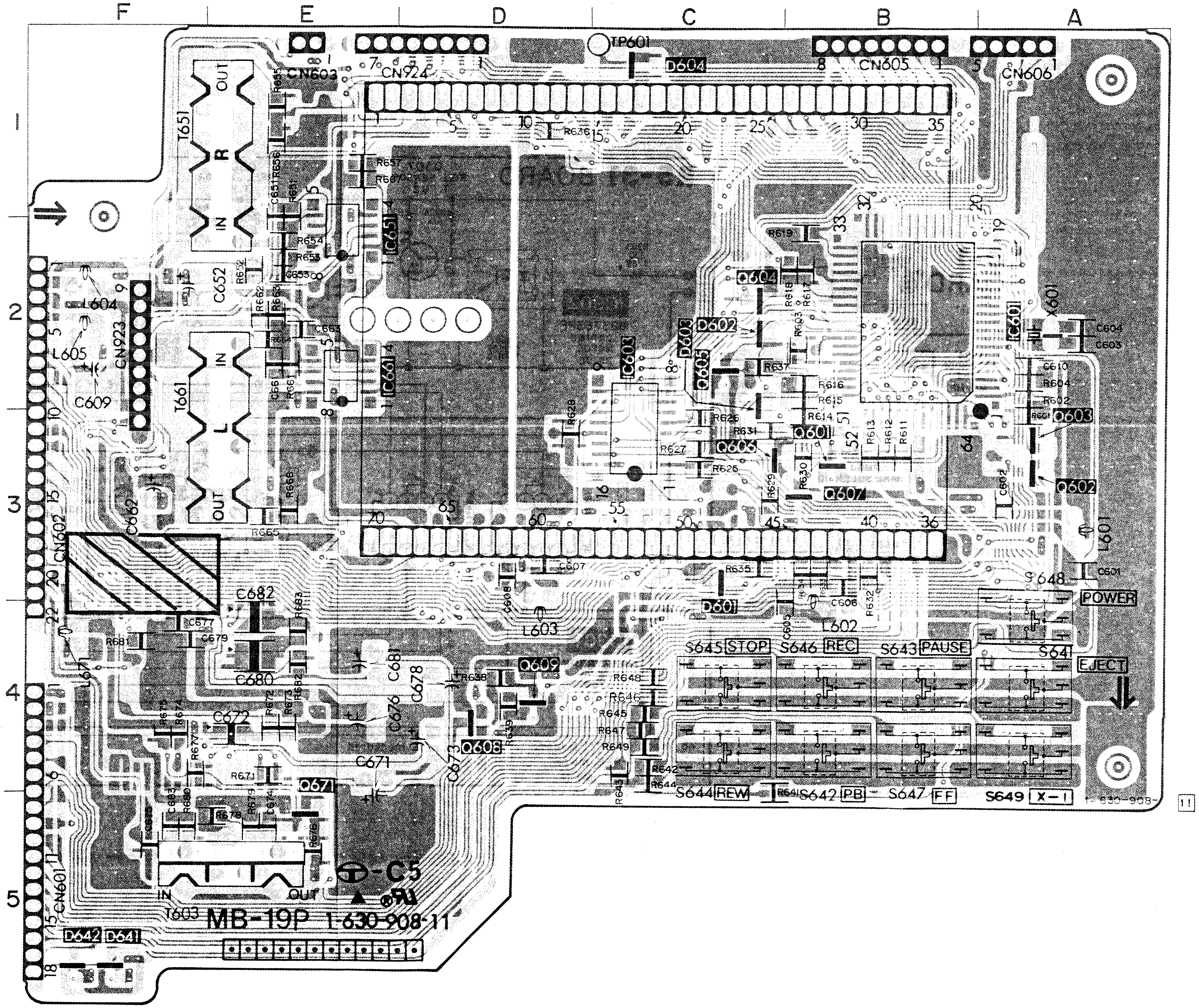

A
B
C
D
E
F
1
2
3
4
5
CN606
CN605
TP601
CN924
CN603
PCM UNIT
X601
L601
T651
T661
C652
L604
L605
CN923
C609
C662
CN602
IC671
IC602
L602
L603
POWER
EJECT
PAUSE
REC
STOP
X
FF
PB
REW
DTP
C678
C681
C673
C676
C671
T603
OUT
IN
CN601
MB-19P 1-630-908-11
MADE IN JAPAN
L641
C641
1-630-908-
11

MB-19P BOARD (CONDUCTOR SIDE)


F
E
1
2
3
4
5
CN603
CN924
T651
R
IN
OUT
IC651
R654
R653
C652
L604
L605
CN923
C609
T661
L
IC661
C662
CN602
C682
C680
C681
C678
C676
C672
C671
R671
Q671
T603
IN
OUT
CN601
D642
D641
MB-19P 1-630-908-


E
F
CN603
OUT
T651
IN
C652
L604
L605
CN923
C609
T661
CN602
C662
IC67
70
32
17
20
22
C681
C676
C671
L671
16
T603
OUT
IN
CN601
MB-19P 1-630-908-11
MADE IN JAPAN
L641
C641
18
1-630-908-
11

MB-19P BOARD (CONDUCTOR SIDE)


F
E
D
C
B
A
1
2
3
4
5
CN603
CN924
TP601
D604
CN605
CN606
T651
R
IN
OUT
C652
IC651
R657
R667
R654
R653
L604
L605
CN923
C609
T661
L
IC661
IC603
IC601
X601
Q604
D602
D603
Q605
Q601
Q606
Q607
Q603
Q602
C604
C603
C610
R604
R602
R601
L601
C601
648
POWER
CN602
C662
C682
C680
C677
C679
C681
C678
C676
C672
C671
C673
Q609
Q608
Q671
D601
L603
L602
R635
C607
C606
S645 STOP
S646 REC
S643 PAUSE
S641
EJECT
S644 REW
S642 PB
S647 FF
S649 X-1
T603
IN
OUT
CN601
D642
D641
MB-19P 1-630-908-11
C5
1-630-908-
11

AUDIO AUDIO

MB-19 (P) BOARD, COMPLETE
****

< DIODE >

D601	8-719-104-34	DIODE 1S2836
D602	8-719-104-34	DIODE 1S2836
D603	8-719-104-34	DIODE 1S2836
D604	8-719-400-18	DIODE MA152WK
D641	8-719-800-76	DIODE 1SS226
D642	8-719-800-76	DIODE 1SS226

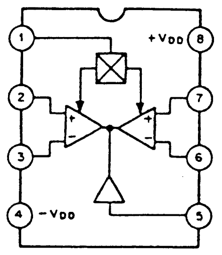
< IC >

IC601	8-759-149-34	IC uPD75106G-591-1B
IC603	8-759-208-11	IC TC4053BFHB
IC651	8-759-603-27	IC M5201FP
IC661	8-759-603-27	IC M5201FP
IC671	8-741-150-50	IC SBX1505-01

< TRANSISTOR >

Q601	8-729-901-06	TRANSISTOR	DTA144EK
Q602	8-729-901-01	TRANSISTOR	DTC144EK
Q603	8-729-901-01	TRANSISTOR	DTC144EK
Q604	8-729-901-01	TRANSISTOR	DTC144EK
Q605	8-729-901-06	TRANSISTOR	DTA144EK
Q606	8-729-901-06	TRANSISTOR	DTA144EK
Q607	8-729-901-01	TRANSISTOR	DTC144EK
Q608	8-729-901-01	TRANSISTOR	DTC144EK
Q609	8-729-901-06	TRANSISTOR	DTA144EK
Q671	8-729-100-66	TRANSISTOR	2SC1623
Q853	8-729-102-07	TRANSISTOR	2SC2223-F13

IC651, IC661 (M5201FP)

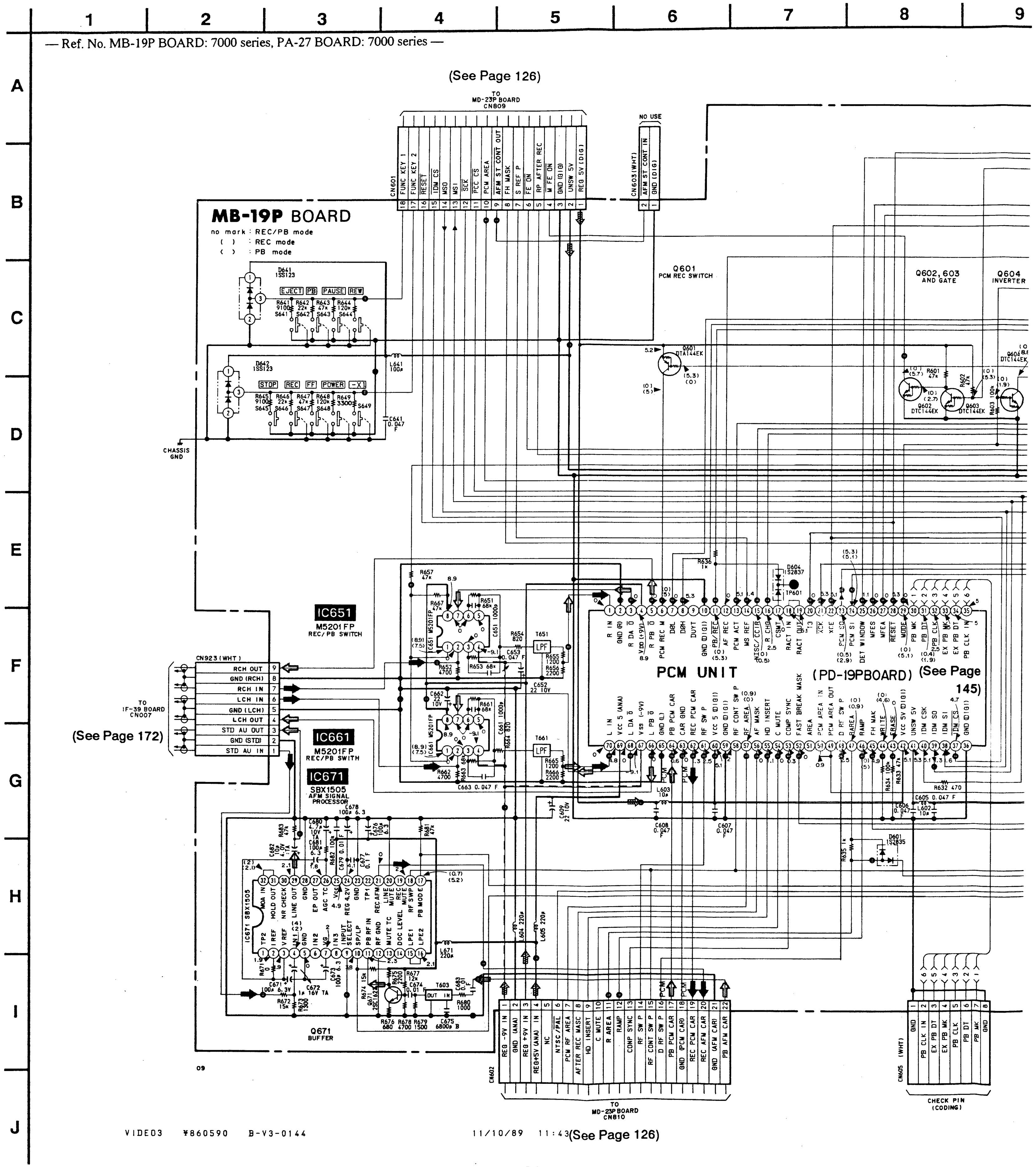

1
2
3
4
5
6
7
8
+VDD
-VDD

- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC				➡
PB				⇨

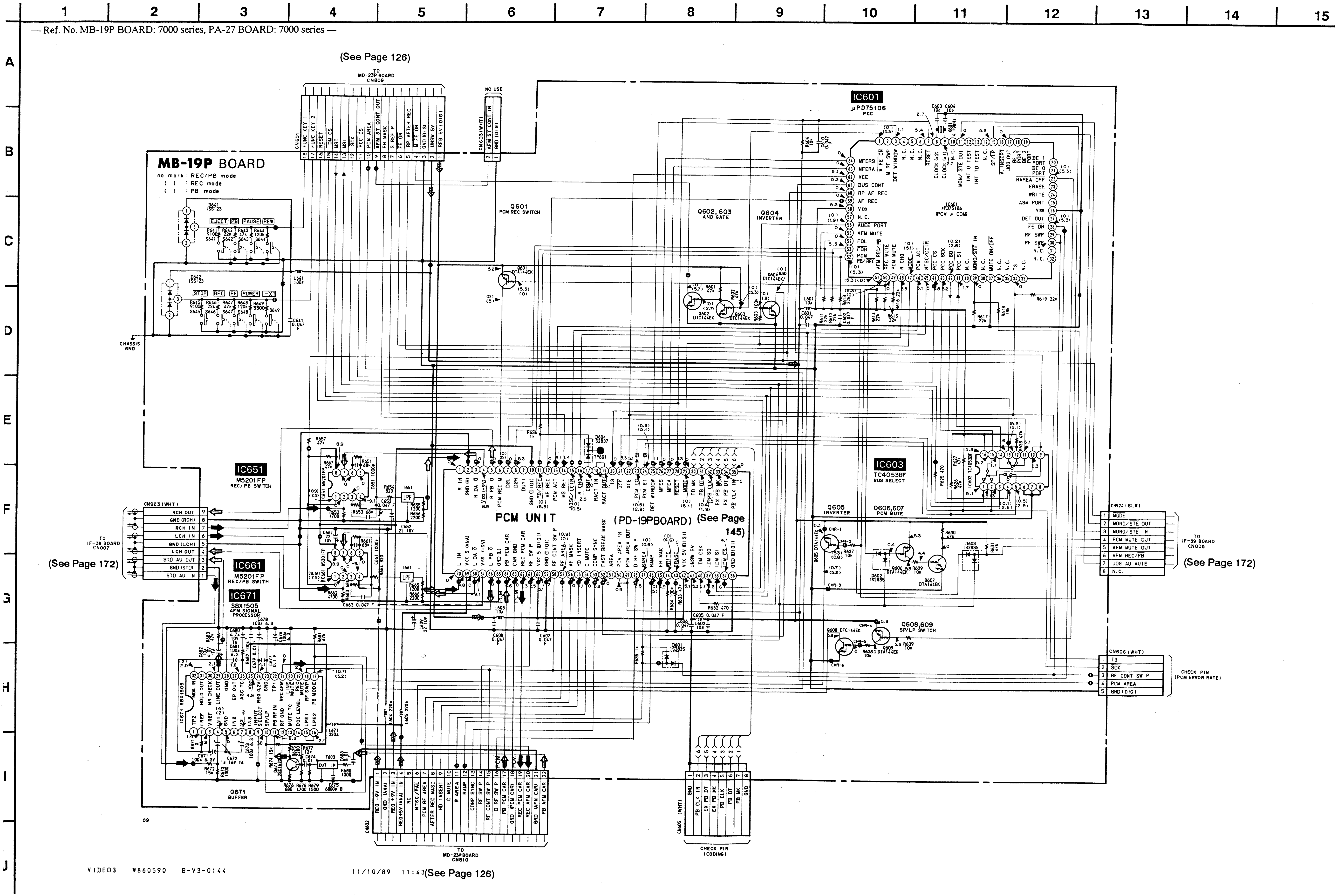
MB-19P (VTR FUNCTION SWITCH/AUDIO PROCESS) SCHEMATIC DIAGRAM

— Ref. No. MB-19P BOARD: 7000 series, PA-27 BOARD: 7000 series —


(See Page 126)
TO MD-23P BOARD CN809
NO USE
MB-19P BOARD
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
D641 1SS123
EJECT
PB
PAUSE
REW
D642 1SS123
STOP
REC
FF
POWER
CHASSIS GND
Q601 PCM REC SWITCH
Q602, 603 AND GATE
Q604 INVERTER
IC651 M5201FP REC/PB SWITCH
IC661 M5201FP REC/PB SWITH
IC671 SBX1505 AFM SIGNAL PROCESSOR
PCM UNIT (PD-19PBOARD) (See Page 145)
CN923 (WHT)
RCH OUT
GND (RCH)
RCH IN
LCH IN
GND (LCH)
LCH OUT
STD AU OUT
GND (STD)
STD AU IN
TO IF-39 BOARD CN007
(See Page 172)
Q671 BUFFER
CN602
CN605 (WHT)
CHECK PIN (CODING)
TO MD-23P BOARD CN810
(See Page 126)
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
VIDEO3 ¥860590 B-V3-0144
11/10/89 11:43

MB-19P (VTR FUNCTION SWITCH/AUDIO PROCESS) SCHEMATIC DIAGRAM

— Ref. No. MB-19P BOARD: 7000 series, PA-27 BOARD: 7000 series —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
(See Page 126)
TO
MD-23P BOARD
CN809
CN601
18 FUNC KEY 1
17 FUNC KEY 2
16 RESET
15 IDM CS
14 MSO
13 MSI
12 SCK
11 PCC CS
10 PCM AREA
9 AFM ST CONT OUT
8 FH MASK
7 S REF P
6 FE ON
5 RP AFTER REC
4 M FE ON
3 GND (DIG)
2 UNSW 5V
1 REG 5V (DIG)
NO USE
CN603 (WHT)
2 AFM ST CONT IN
1 GND (DIG)
MB-19P BOARD
no mark : REC/PB mode
( ) : REC mode
〈 〉 : PB mode
D641
1SS123
EJECT
PB
PAUSE
REW
S641
S642
S643
S644
D642
1SS123
STOP
REC
FF
POWER
-X
S645
S646
S647
S648
S649
L641
100μ
C641
0.047
CHASSIS
GND
Q601
PCM REC SWITCH
Q601
DTA144EK
IC601
μPD75106
PCC
MFERS
MFERA
XCE
BUS CONT
RP AF REC
AF REC
VDD
N.C.
AUEE PORT
AFM MUTE
FOL
FOH
PCM
PB/REC
X601
4.19M
Q602, 603
AND GATE
Q604
INVERTER
Q602
DTC144EK
Q603
DTC144EK
Q604
DTC144EK
PCM UNIT (PD-19PBOARD)
(See Page 145)
IC651
M5201FP
REC/PB SWITCH
IC661
M5201FP
REC/PB SWITH
IC671
SBX1505
AFM SIGNAL
PROCESSOR
Q671
BUFFER
T651
LPF
T661
LPF
T603
D604
1S2837
TP601
D601
1S2835
IC603
TC4053BF
BUS SELECT
Q605
INVERTER
Q605
DTA144EK
Q606,607
PCM MUTE
Q606
DTA144EK
Q607
DTA144EK
D602
1S2835
D603
1S2835
Q608,609
SP/LP SWITCH
Q608 DTC144EK
Q609
DTA144EK
CN923 (WHT)
9 RCH OUT
8 GND (RCH)
7 RCH IN
6 LCH IN
5 GND (LCH)
4 LCH OUT
3 STD AU OUT
2 GND (STD)
1 STD AU IN
TO
IF-39 BOARD
CN007
(See Page 172)
CN924 (BLK)
1 MODE
2 MONO/STE OUT
3 MONO/STE IN
4 PCM MUTE OUT
5 AFM MUTE OUT
6 AFM REC/PB
7 JOG AU MUTE
8 N.C.
TO
IF-39 BOARD
CN005
(See Page 172)
CN606 (WHT)
1 T3
2 SCK
3 RF CONT SW P
4 PCM AREA
5 GND (DIG)
CHECK PIN
(PCM ERROR RATE)
CN602
1 REG -9V IN
2 GND (ANA)
3 REG +9V IN
4 REG+5V (ANA) IN
5 NC
6 NTSC/PAL
7 PCM RF AREA
8 AFTER REC MASC
9 HD INSERT
10 C MUTE
11 R AREA
12 RAMP
13 CONP SYNC
14 RF SW P
15 RF CONT SW P
16 D RF SW P
17 PB PCM CAR
18 GND (PCM CAR)
19 REC PCM CAR
20 REC AFM CAR
21 GND (AFM CAR)
22 PB AFM CAR
PCM
TO
MD-23P BOARD
CN810
(See Page 126)
CN605 (WHT)
1 GND
2 PB CLK IN
3 EX PB DT
4 EX PB MK
5 PB CLK
6 PB DT
7 PB MK
8 GND
CHECK PIN
(CODING)
09

VIDEO3 ¥860590 B-V3-0144

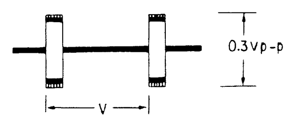
11/10/89 11:43

PD-19P (DIGITAL PCM AUDIO), PA-27 (ANALOG PCM AUDIO) PRINTED WIRING BOARDS

— Ref. No. PD-19P BOARD: 7000 series, PA-27 BOARD: 7000 series —

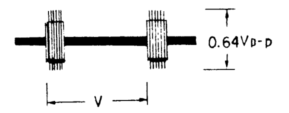
PD-19P BOARD

❶



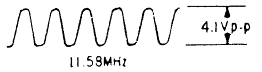
CN852 ⑦ PB

❷



CN852 ⑨ REC

❸


4.1Vp-p
11.58MHz

CN853 ⑫ EE

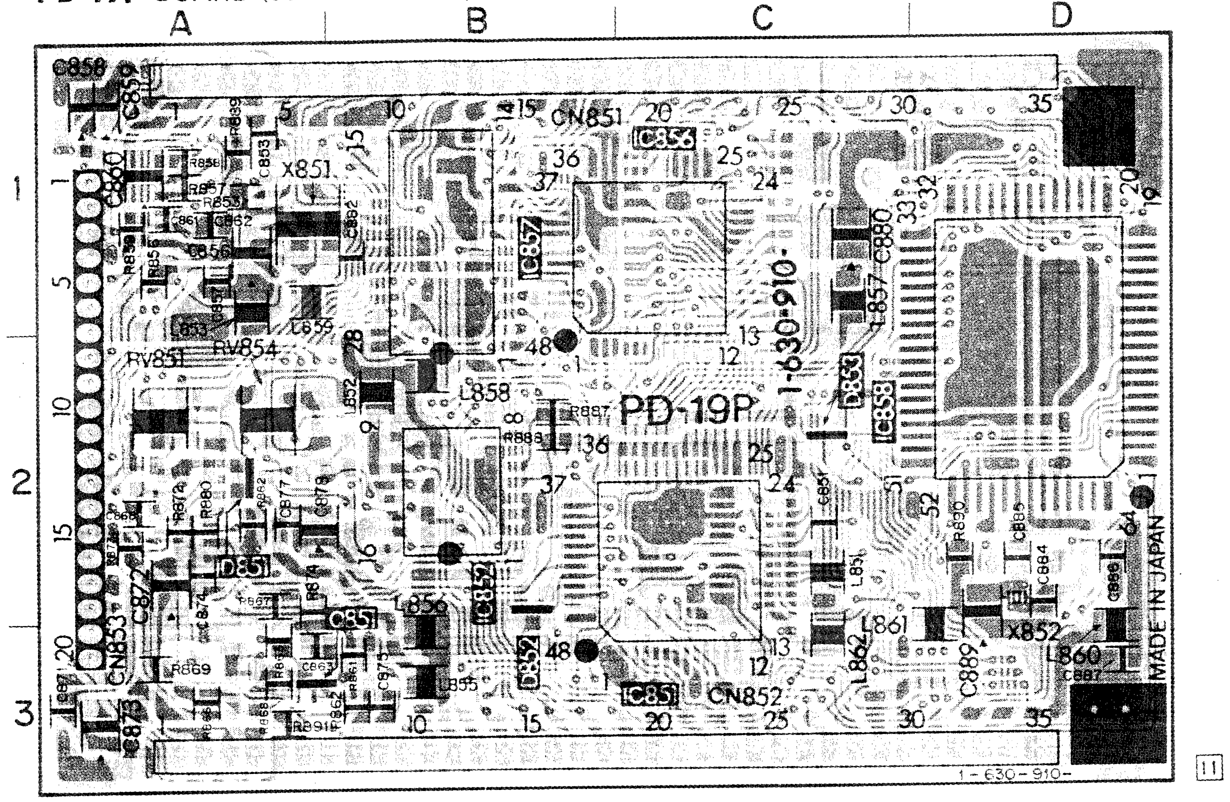
PD-19P BOARD
(COMPONENT
SIDE)

D851	A-2
D852	B-3
D853	C-2
IC851	C-3
IC852	B-2
IC856	C-1
IC857	B-1
IC858	D-2
Q851	B-3

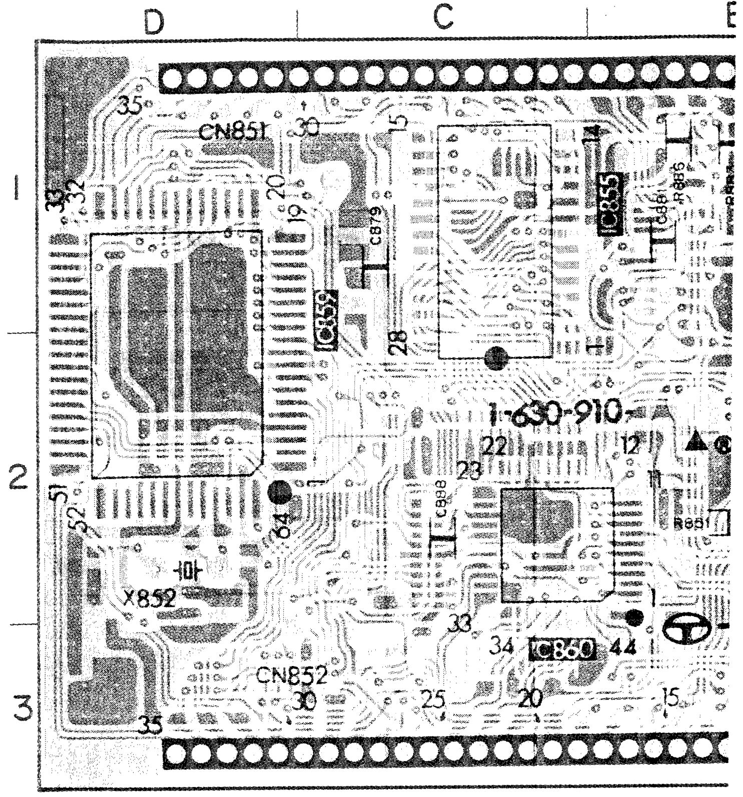
PD-19P BOARD
(CONDUCTOR
SIDE)

IC853	A-1
IC854	A-2
IC855	C-1
IC859	D-1
IC860	C-2
Q852	A-3
Q853	A-3

PD-19P BOARD (COMPONENT SIDE)


A
B
C
D
1
2
3
CN851
CN852
CN853
X851
X852
IC851
IC852
IC856
IC857
IC858
D851
D852
D853
Q851
RV851
RV854
L858
L861
PD-19P
1-630-910
MADE IN JAPAN
1-630-910-
11

PD-19P BOARD (CONDUCTOR SIDE)


D
C
1
2
3
CN851
CN852
X852
IC853
IC855
IC859
IC860
1-630-910-

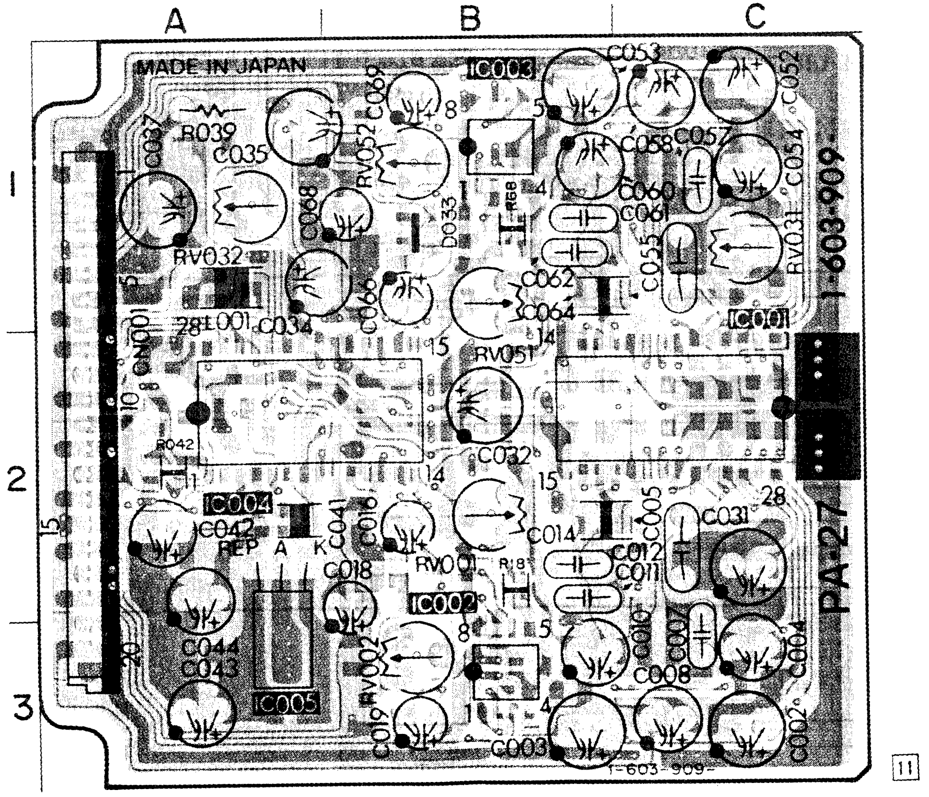
PA-27 BOARD
(COMPONENT
SIDE)

D033	B-1
IC001	C-2
IC002	B-3
IC003	B-1
IC004	A-2
IC005	A-3

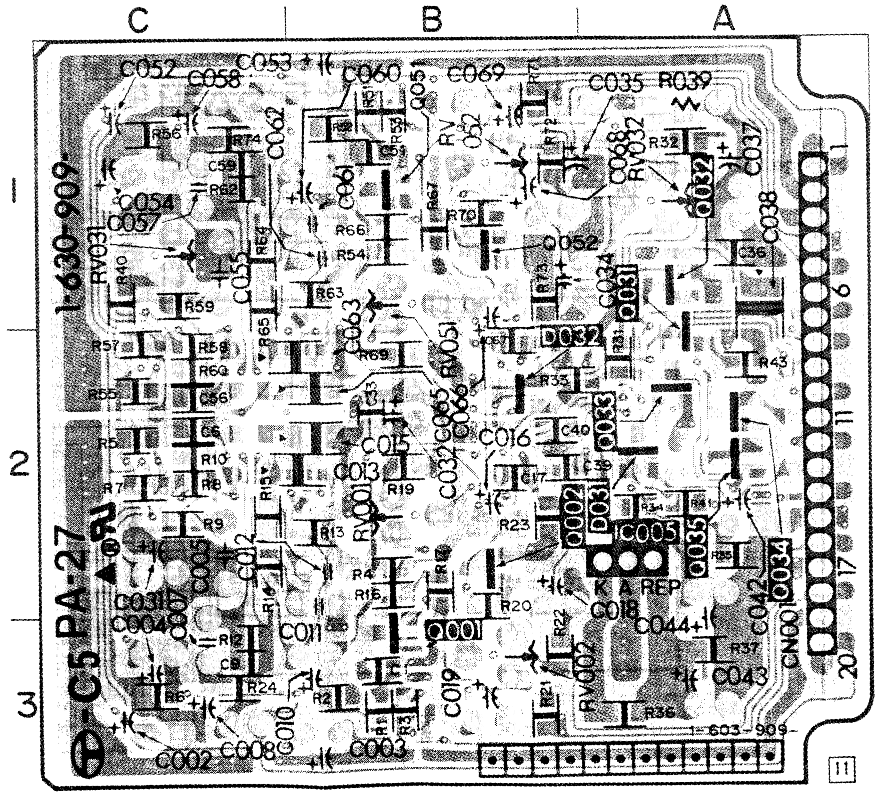
PA-27 BOARD
(CONDUCTOR
SIDE)

D031	A-2
D032	B-2
Q001	B-3
Q002	B-2
Q031	A-1
Q032	A-1
Q033	A-2
Q034	A-2
Q035	A-2
Q051	B-1
Q052	B-1

PA-27 BOARD (COMPONENT SIDE)


A
B
C
1
2
3
MADE IN JAPAN
IC001
IC002
IC003
IC004
IC005
D033
RV001
RV002
RV031
RV032
RV051
REP
A
K
PA-27
1-603-909
1-603-909-
11

PA-27 BOARD (CONDUCTOR SIDE)


C
B
A
1
2
3
1-630-909
PA-27
C5
D031
D032
Q001
Q002
Q031
Q032
Q033
Q034
Q035
Q051
Q052
IC005
K A REP
1-603-909-
11

PA-27 BC
****

D031
D032
D033

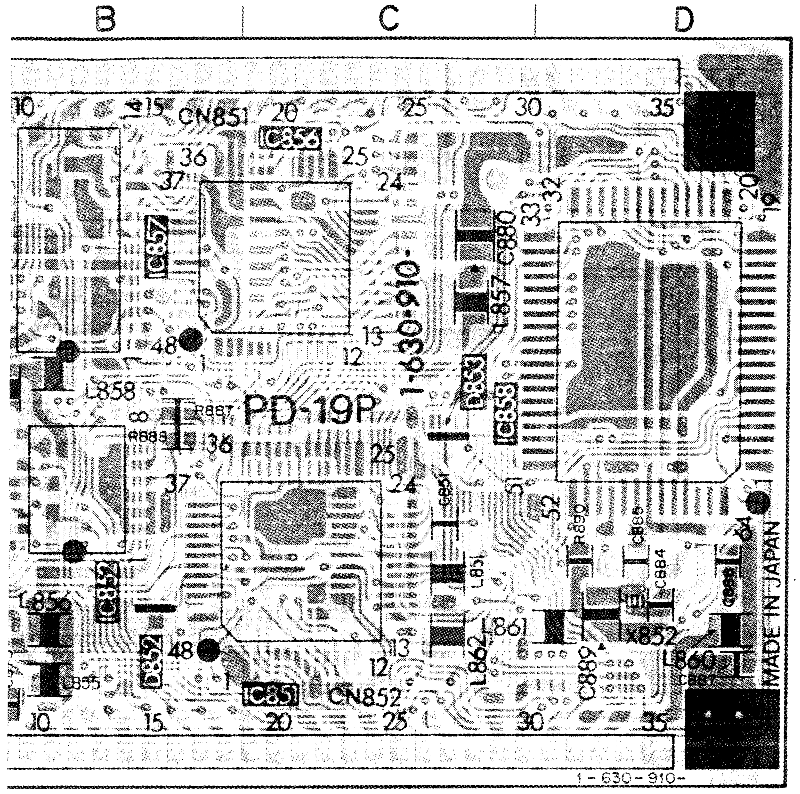
IC001
IC002
IC003
IC004
IC004

IC005

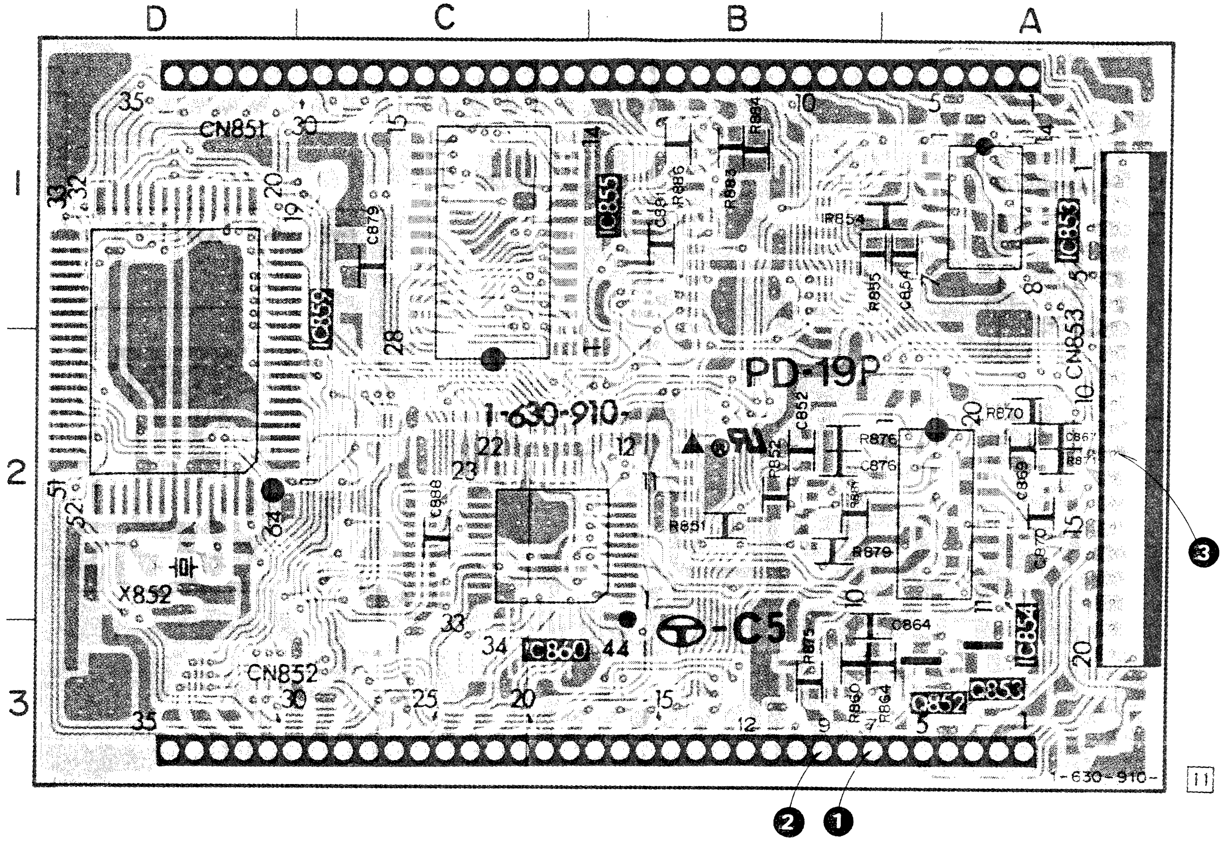
Q001
Q002
Q031
Q032
Q033

Q034
Q035
Q051
Q052

NT SIDE)


B
C
D
CN851
IC856
IC857
L858
PD-19P
1-630-910
IC858
L857
C880
D853
IC852
IC851
CN852
L861
L862
X852
C889
L860
MADE IN JAPAN
1-630-910-

PD-19P BOARD (CONDUCTOR SIDE)


D
C
B
A
1
2
3
CN851
IC859
IC855
IC853
CN853
PD-19P
1-630-910
X852
CN852
IC860
C5
IC854
Q852
Q851
❸
❷
❶
1-630-910-

PD-19 (P) BOARD, COMPLETE
****

< DIODE >

D851	8-719-104-34	DIODE 1S2836
D852	8-719-400-18	DIODE MA152WK
D853	8-719-400-18	DIODE MA152WK

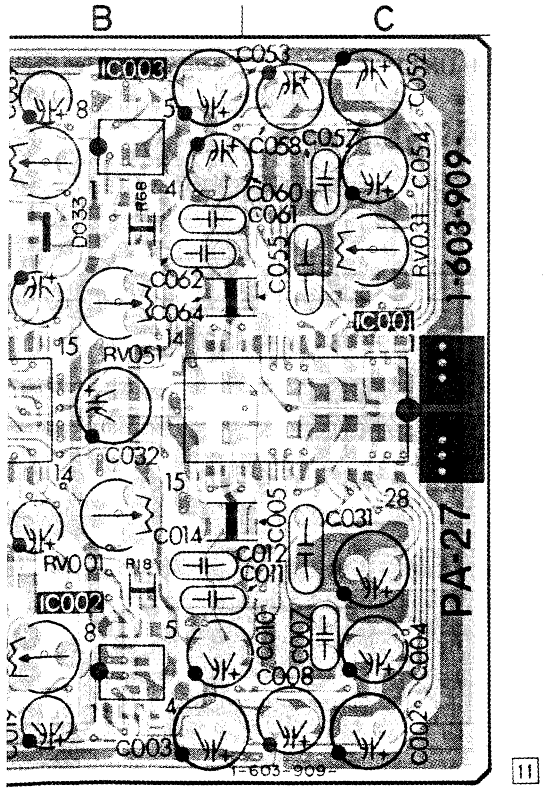
< IC >

IC851	8-752-324-45	IC CXD1056Q-Z
IC852	8-759-929-17	IC CXD1051M
IC853	8-752-010-30	IC CX20103
IC854	8-752-010-20	IC CX20102
IC855	8-752-331-00	IC CXK58643M-12L-T6
IC856	8-759-948-61	IC CX23011-C
IC857	8-759-911-19	IC CX23012
IC858	8-759-972-12	IC CF77305FT
IC859	8-759-809-68	IC CXP5024H-079Q
IC860	8-759-972-13	IC CF77309FR

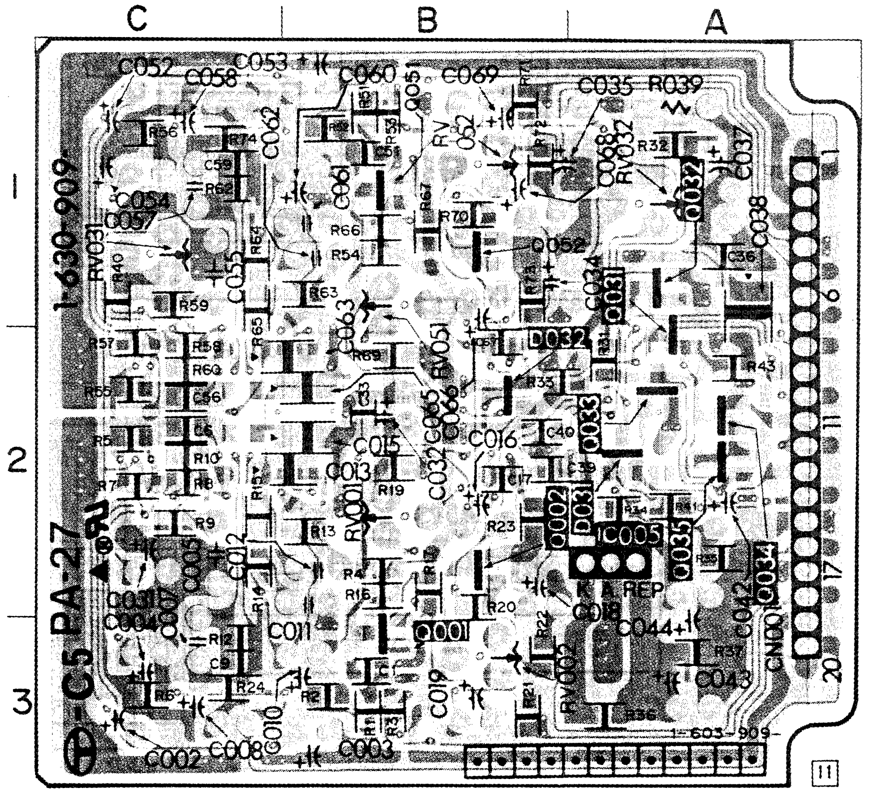
< TRANSISTOR >

Q851	8-729-102-07	TRANSISTOR 2SC2223-F13
Q852	8-729-122-63	TRANSISTOR 2SA1226

SIDE)


B
C
IC003
IC001
RV051
RV031
1-603-909
PA-27
IC002
RV001
1-603-909-

PA-27 BOARD (CONDUCTOR SIDE)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1-630-909
PA-27
C5
IC005
CN001
1-603-909-

PA-27 BOARD, COMPLETE
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< DIODE >

D031	8-719-104-34	DIODE	1S2836
D032	8-719-104-34	DIODE	1S2836
D033	8-719-104-34	DIODE	1S2836

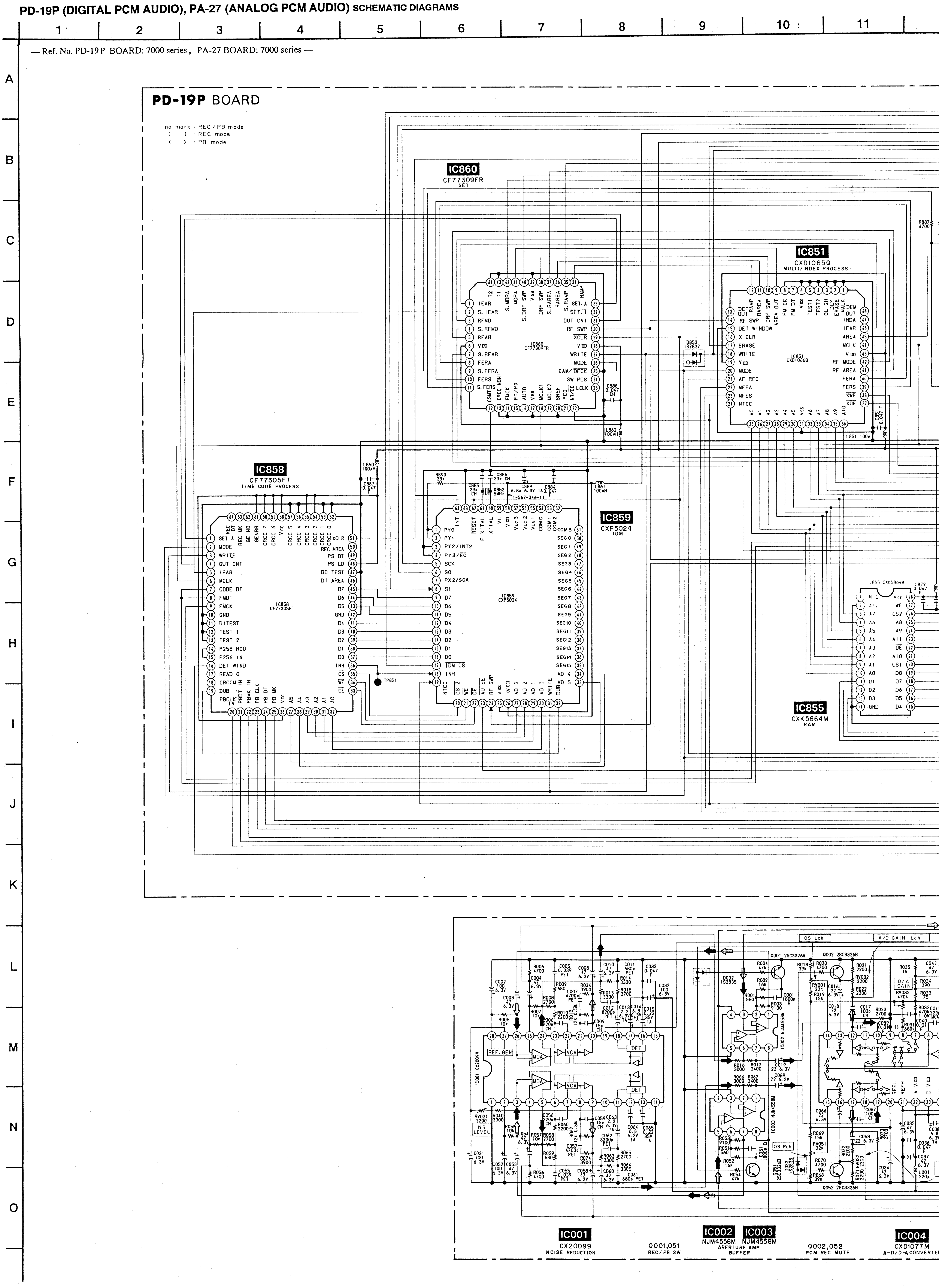
< IC >

IC001	8-752-009-90	IC	CX20099
IC002	8-759-981-92	IC	RC4558M
IC003	8-759-981-92	IC	RC4558M
IC004	8-752-322-57	IC	CXD1077M
IC004	8-752-322-57	IC	CXD1077M
IC005	8-759-908-15	IC	TL431CLP

< TRANSISTOR >

Q001	8-729-202-38	TRANSISTOR	2SC3326N
Q002	8-729-202-38	TRANSISTOR	2SC3326N
Q031	8-729-901-06	TRANSISTOR	DTA144EK
Q032	8-729-901-06	TRANSISTOR	DTA144EK
Q033	8-729-901-06	TRANSISTOR	DTA144EK
Q034	8-729-216-22	TRANSISTOR	2SA1162
Q035	8-729-216-22	TRANSISTOR	2SA1162
Q051	8-729-202-38	TRANSISTOR	2SC3326N
Q052	8-729-202-38	TRANSISTOR	2SC3326N

— Ref. No. PD-19P BOARD: 7000 series, PA-27 BOARD: 7000 series —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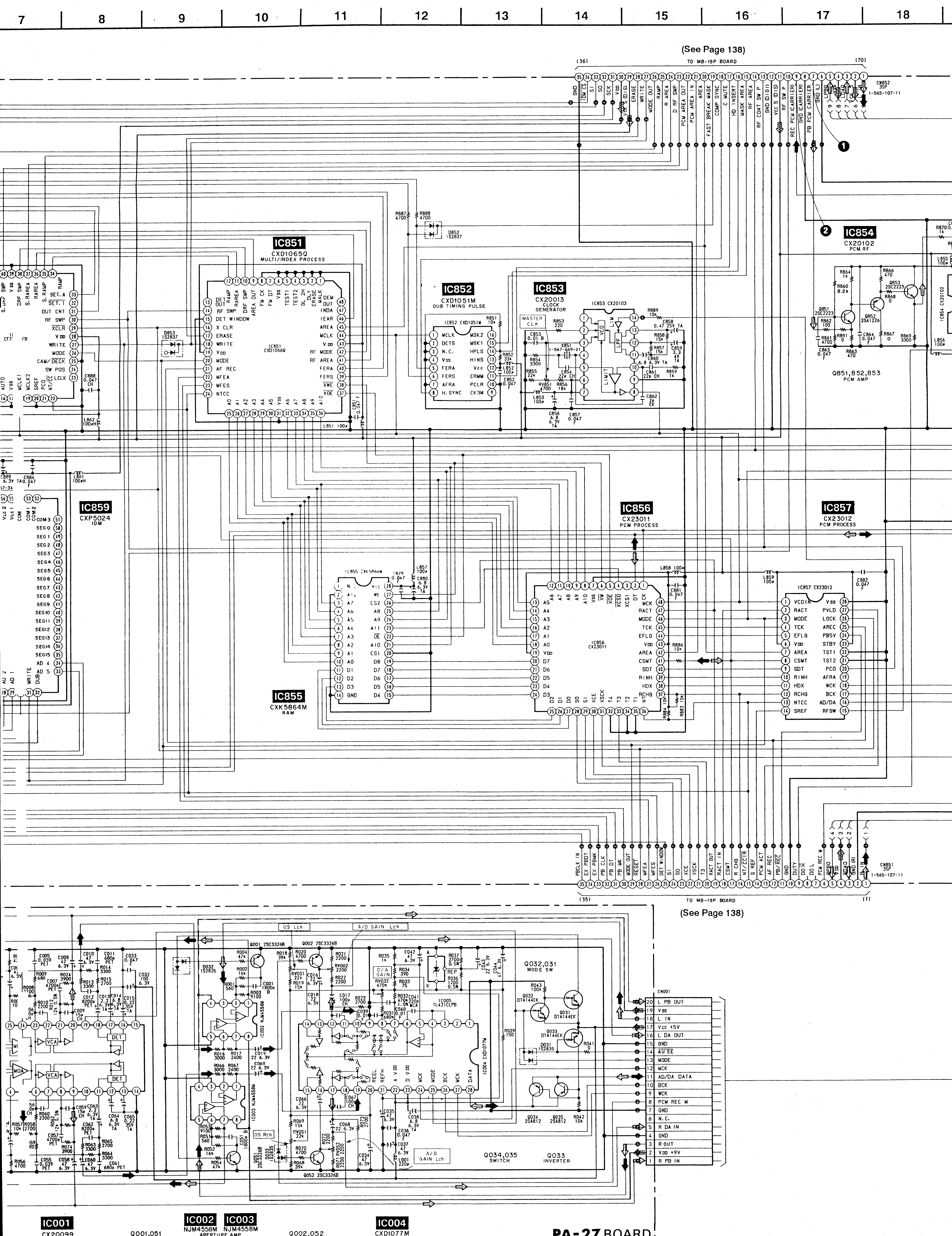
PD-19P BOARD
no mark : REC / PB mode
( ) : REC mode
< > : PB mode
IC860
CF77309FR
SET
IC851
CXD1065Q
MULTI/INDEX PROCESS
IC858
CF77305FT
TIME CODE PROCESS
IC859
CXP5024
IDM
IC855
CXK5864M
RAM
TP851
IC001
CX20099
NOISE REDUCTION
Q001,051
REC/PB SW
IC002 IC003
NJM4558M NJM4558M
ARETURE AMP
BUFFER
Q002,052
PCM REC MUTE
IC004
CXD1077M
A-D/D-A CONVERTER
OS Lch
OS Rch
A/D GAIN Lch
NR LEVEL
REF. GEN
MDA
VCA
DET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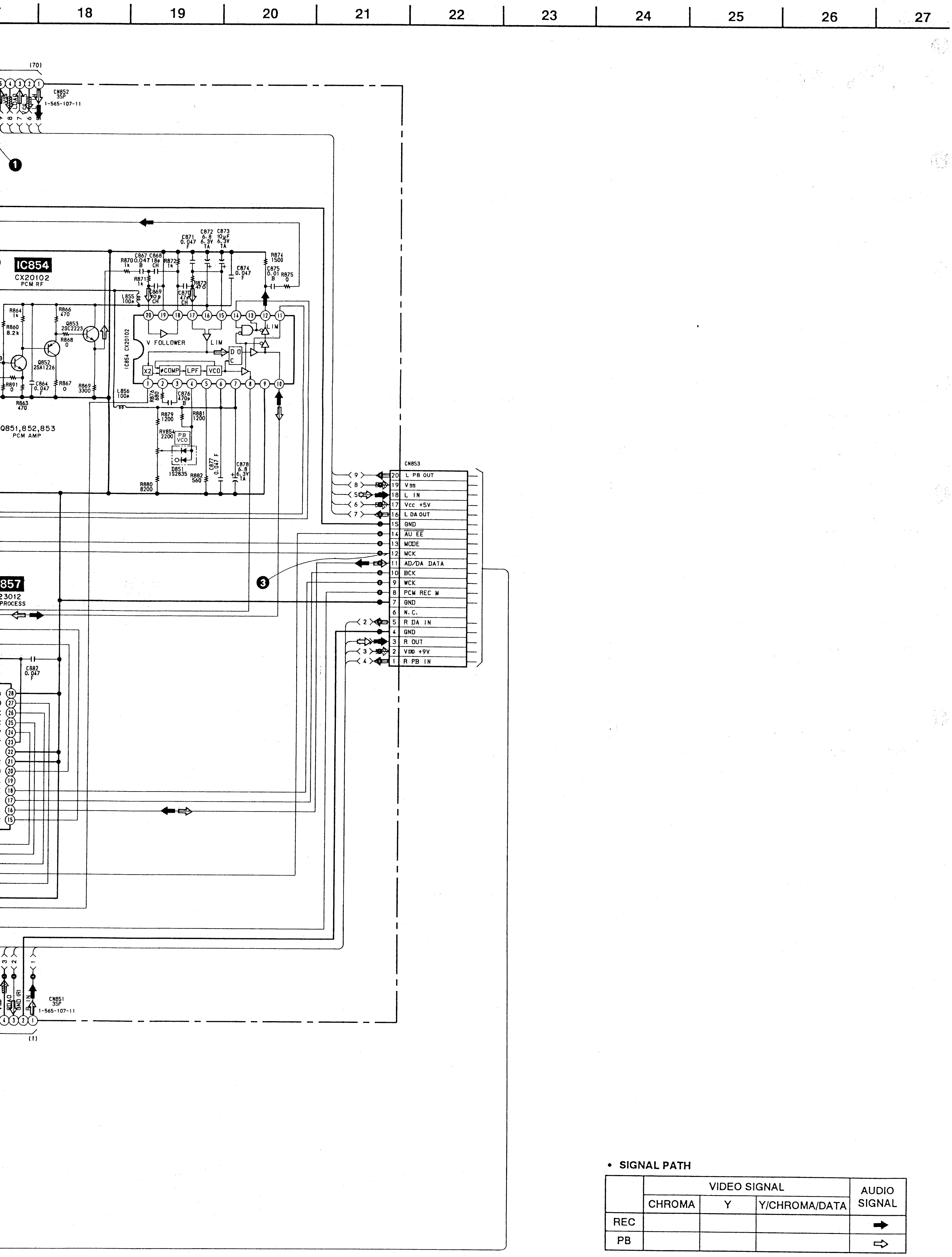
(See Page 138)
TO MB-19P BOARD
CN852 35P 1-565-107-11
IC851
CXD1065Q
MULTI/INDEX PROCESS
IC852
CXD1051M
DUB TIMING PULSE
IC853
CX20013
CLOCK GENERATOR
MASTER CLK
IC854
CX20102
PCM RF
Q851,852,853
PCM AMP
IC859
CXP5024
IDM
IC855
CXK5864M
RAM
IC856
CX23011
PCM PROCESS
IC857
CX23012
PCM PROCESS
CN851 35P 1-565-107-11
TO MB-19P BOARD
(See Page 138)
CN001
OS Lch
A/D GAIN Lch
OS Rch
A/D GAIN Lch
Q032,031
MODE SW
Q034,035
SWITCH
Q033
INVERTER
IC001
CX20099
NOISE REDUCTION
Q001,051
REC/PB SW
IC002
NJM4558M
APERTURE AMP
IC003
NJM4558M
BUFFER
Q002,052
PCM REC MUTE
IC004
CXD1077M
A-D/D-A CONVERTER
PA-27 BOARD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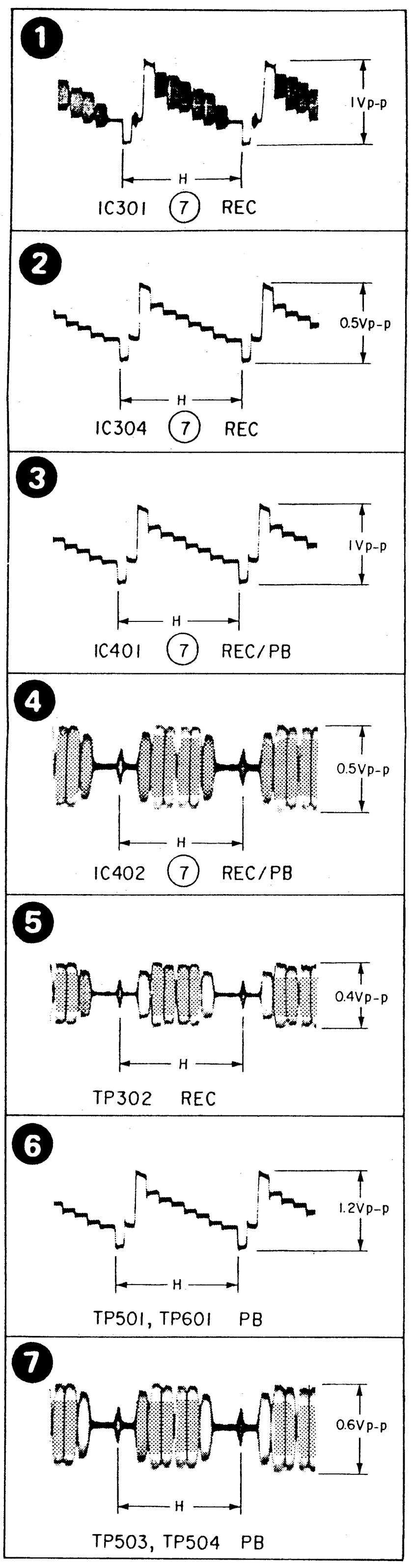
CN852 35P 1-565-107-11
IC854
CX20102
PCM RF
V FOLLOWER
LIM
X2
COMP
LPF
VCO
PB VCO
Q852 2SA1226
Q853 2SC2223
Q851,852,853
PCM AMP
D851 1S2835
857
23012
PROCESS
C882 0.047 F
CN853
20 L PB OUT
19 Vss
18 L IN
17 Vcc +5V
16 L DA OUT
15 GND
14 AU EE
13 MODE
12 MCK
11 AD/DA DATA
10 BCK
9 WCK
8 PCM REC M
7 GND
6 N.C.
5 R DA IN
4 GND
3 R OUT
2 VDD +9V
1 R PB IN
CN851 35P 1-565-107-11

- **SIGNAL PATH**

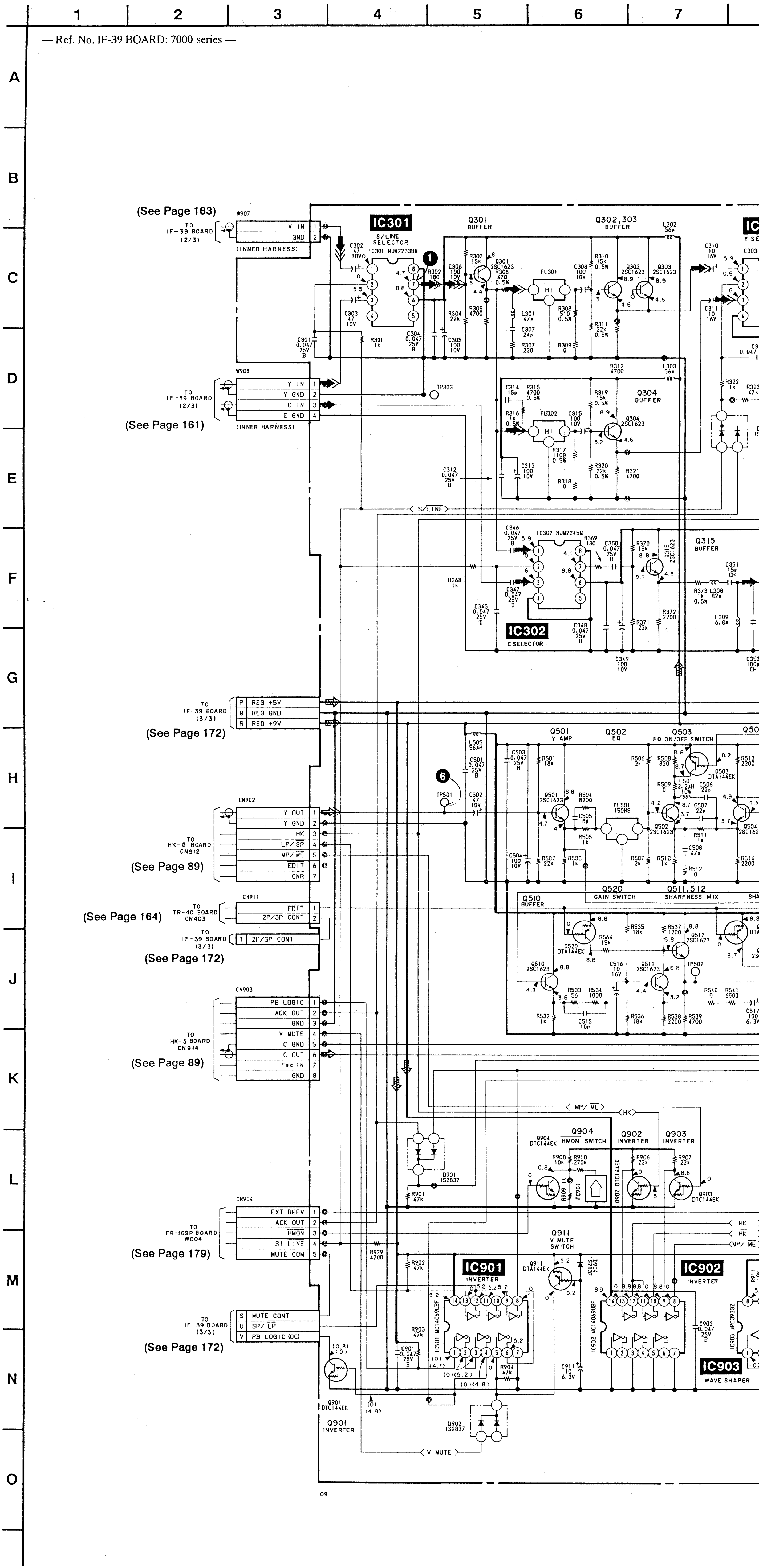
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC				➡
PB				⇨

IF-39 BOARD (1/3)



IF-39 (Y/C SIGNAL SELECT, SHARPNESS, NOISE CANCEL) SCHEMATIC DIAGRAM

— Ref. No. IF-39 BOARD: 7000 series —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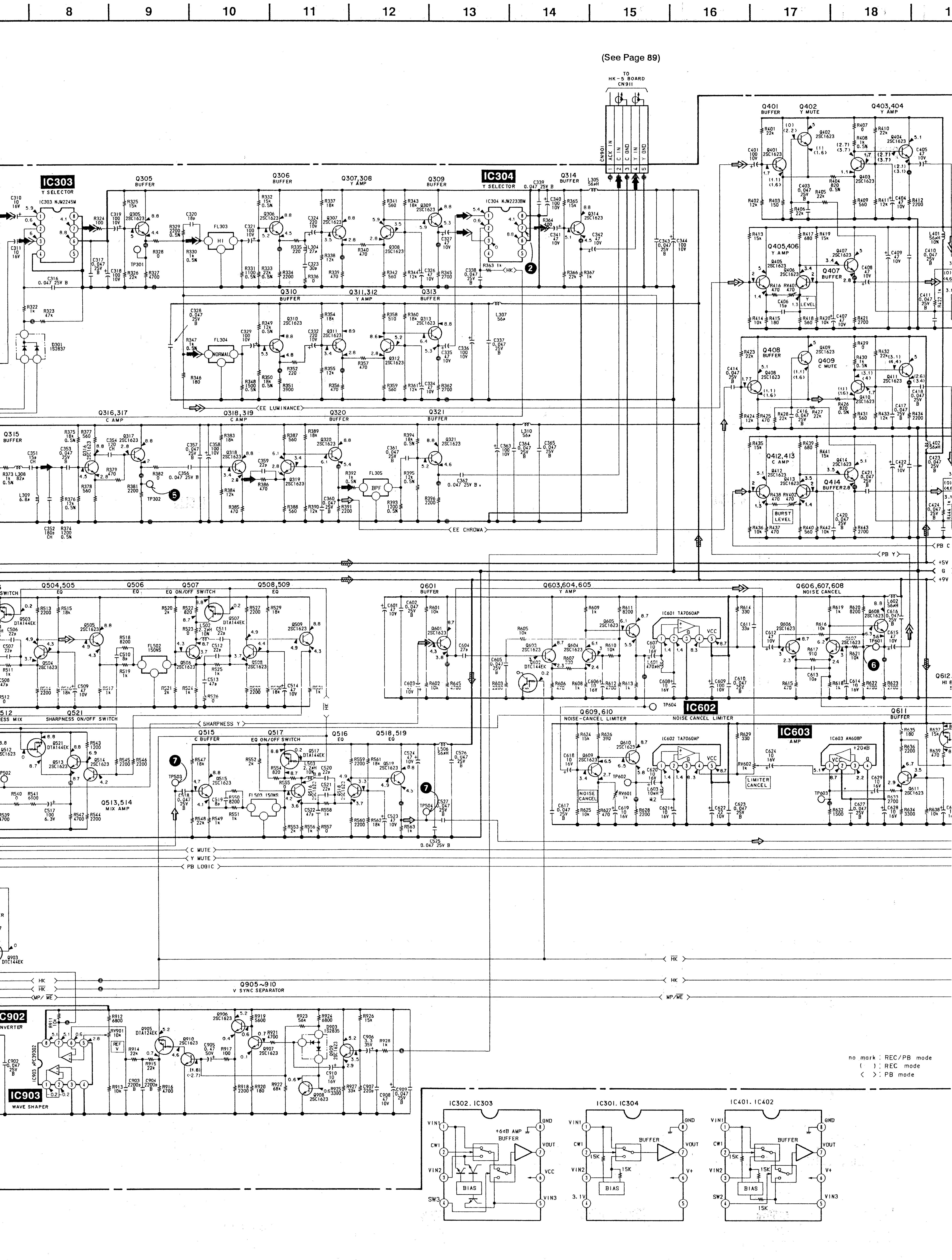
O
(See Page 163)
TO IF-39 BOARD (2/3)
V IN
GND
(INNER HARNESS)
(See Page 161)
TO IF-39 BOARD (2/3)
Y IN
Y GND
C IN
C GND
(INNER HARNESS)
IC301
S/LINE SELECTOR
IC301 NJM2233BM
Q301 BUFFER
Q302,303 BUFFER
FL301
TP303
Q304 BUFFER
FL302
S/LINE
IC302 NJM2245M
IC302
C SELECTOR
Q315 BUFFER
(See Page 172)
TO IF-39 BOARD (3/3)
REG +5V
REG GND
REG +9V
Q501 Y AMP
Q502 EQ
Q503 EQ ON/OFF SWITCH
TP501
FL501
(See Page 89)
TO HK-5 BOARD CN912
Y OUT
Y GND
HK
LP/SP
MP/ME
EDIT
CNR
Q510 BUFFER
Q520 GAIN SWITCH
Q511,512 SHARPNESS MIX
TP502
(See Page 164)
TO TR-40 BOARD CN403
EDIT
2P/3P CONT
(See Page 172)
TO IF-39 BOARD (3/3)
2P/3P CONT
(See Page 89)
TO HK-5 BOARD CN914
PB LOGIC
ACK OUT
GND
V MUTE
C GND
C OUT
Fsc IN
GND
MP/ME
HK
Q904 HMON SWITCH
Q902 INVERTER
Q903 INVERTER
D901 1S2837
(See Page 179)
TO FB-169P BOARD W004
EXT REFV
ACK OUT
HMON
SI LINE
MUTE COM
Q911 V MUTE SWITCH
IC901
INVERTER
IC902
INVERTER
(See Page 172)
TO IF-39 BOARD (3/3)
MUTE CONT
SP/LP
PB LOGIC (OC)
Q901 DTC144EK
Q901 INVERTER
D902 1S2837
V MUTE
IC903
WAVE SHAPER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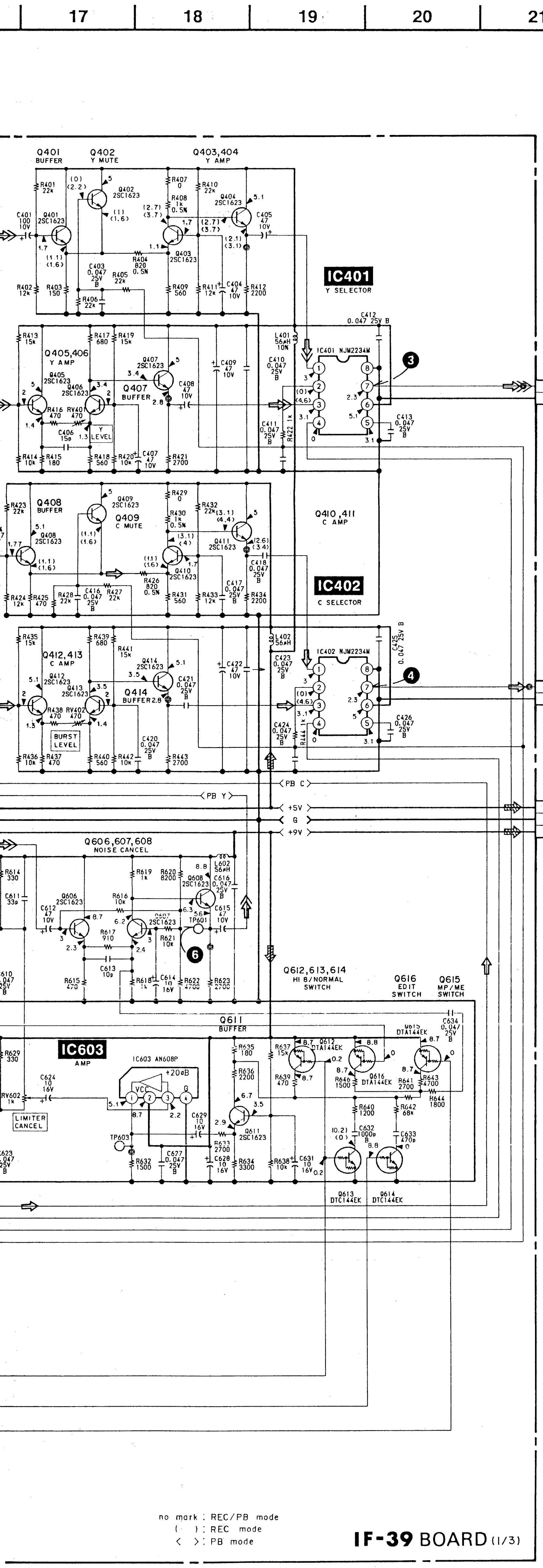
18
(See Page 89)
TO HK-5 BOARD CN911
CN901
ACK IN
C IN
C GND
Y IN
Y GND
IC303 Y SELECTOR
IC303 NJM2245M
Q305 BUFFER
Q306 BUFFER
Q307,308 Y AMP
Q309 BUFFER
IC304 Y SELECTOR
IC304 NJM2233BM
Q314 BUFFER
FL303
H1
FL304
NORMAL
Q310 BUFFER
Q311,312 Y AMP
Q313 BUFFER
D301 1S2837
TP301
EE LUMINANCE
Q315 BUFFER
Q316,317 C AMP
Q318,319 C AMP
Q320 BUFFER
Q321 BUFFER
FL305
BPF
TP302
EE CHROMA
Q401 BUFFER
Q402 Y MUTE
Q403,404 Y AMP
Q405,406 Y AMP
Q407 BUFFER
Y LEVEL
Q408 BUFFER
Q409 C MUTE
Q412,413 C AMP
Q414 BUFFER
BURST LEVEL
PB Y
PB C
+5V
G
+9V
Q504,505 EQ
Q506 EQ
Q507 EQ ON/OFF SWITCH
Q508,509 EQ
FL502 150NS
Q512 SHARPNESS MIX
Q521 SHARPNESS ON/OFF SWITCH
Q513,514 MIX AMP
SHARPNESS Y
HK
Q515 C BUFFER
Q517 EQ ON/OFF SWITCH
Q516 EQ
Q518,519 EQ
FL503 150NS
TP503
TP504
C MUTE
Y MUTE
PB LOGIC
Q601 BUFFER
Q603,604,605 Y AMP
IC601 TA7060AP
Q606,607,608 NOISE CANCEL
TP601
TP604
Q609,610 NOISE-CANCEL LIMITER
IC602 NOISE CANCEL LIMITER
IC602 TA7060AP
NOISE CANCEL
RV601
TP602
LIMITER CANCEL
RV602
IC603 AMP
IC603 AN608P
TP603
Q611 BUFFER
Q612
Q903 DTC144EK
HK
MP/ME
Q905~910 V SYNC SEPARATOR
IC902 INVERTER
IC903 μPC393C
IC903 WAVE SHAPER
RV901
REF V
D903 1S2835
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
IC302. IC303
+6dB AMP BUFFER
VIN1
CW1
VIN2
SW3
BIAS
GND
VOUT
VCC
VIN3
IC301. IC304
BUFFER
15K
3.1V
V+
IC401. IC402
SW2


17
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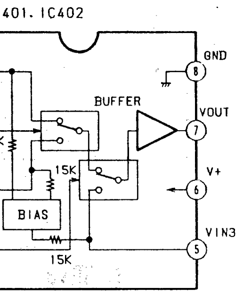
Q401 BUFFER
Q402 Y MUTE
Q403,404 Y AMP
IC401 Y SELECTOR
IC401 NJM2234M
Q405,406 Y AMP
Q407 BUFFER
Y LEVEL
Q408 BUFFER
Q409 C MUTE
Q410,411 C AMP
IC402 C SELECTOR
IC402 NJM2234M
Q412,413 C AMP
Q414 BUFFER
BURST LEVEL
YSEL OUT I
YSEL GND J
CSEL OUT K
CSEL GND L
REG +5V M
GND N
REG +9V O
TO IF-39 BOARD (2/3)
(See Page 161)
PB C
PB Y
+5V
G
+9V
Q606,607,608 NOISE CANCEL
TP601
Q612,613,614 HI 8/NORMAL SWITCH
Q616 EDIT SWITCH
Q615 MP/ME SWITCH
Q611 BUFFER
IC603 AMP
IC603 AN608P
+20dB
LIMITER CANCEL
TP603
IF-39 BOARD (1/3)

no mark : REC/PB mode
( ) : REC mode
< > : PB mode

401, IC402


GND
BUFFER
VOUT
V+
VIN3
BIAS
15K
15K

- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC	➡	➡»	➡»»	
PB	⇨	⇨»		

IF-39 BOARD
(CONDUCTOR
SIDE)

D002	G-2
D003	G-1
D010	K-3
D051	G-2
D052	I-2
D053	H-2
D054	I-2
D167	K-1
D301	A-4
D901	E-3
D902	E-3
D903	A-7
IC801	L-6
IC802	M-6
Q002	G-1
Q003	G-1
Q004	H-2
Q005	H-2
Q007	I-2
Q051	G-2
Q052	G-2
Q053	G-3
Q054	H-3
Q055	H-2
Q056	I-3
Q061	K-3
Q165	K-2
Q167	J-3
Q168	K-3
Q169	J-3
Q170	K-1
Q171	K-1
Q172	J-1
Q174	K-1
Q175	J-1
Q177	J-1
Q178	J-1
Q181	J-1
Q183	K-2
Q186	K-2
Q301	A-2
Q302	B-3
Q303	B-3
Q304	A-4
Q305	A-4
Q307	B-6
Q308	B-6
Q311	A-6
Q312	A-6
Q314	A-7
Q315	C-3
Q317	C-4
Q318	B-4
Q319	B-5
Q320	B-5
Q321	B-6
Q401	G-6
Q402	H-6
Q403	H-7
Q404	H-7
Q405	G-7
Q406	H-7
Q407	H-7
Q412	J-5
Q413	K-5
Q501	D-5
Q502	D-6
Q505	D-7
Q506	D-7
Q509	D-7
Q511	D-7
Q512	E-6
Q513	D-6
Q514	D-5
Q515	H-5
Q516	H-6
Q519	H-6
Q520	E-7
Q601	E-6
Q602	E-5
Q603	E-5
Q604	E-5
Q605	E-5
Q606	F-6
Q608	F-7
Q609	E-6
Q610	E-6
Q611	G-7
Q612	F-7
Q613	G-7
Q615	F-7
Q616	E-7
Q701	K-6
Q706	K-7
Q712	M-7
Q713	L-6
Q714	M-6
Q715	K-7
Q719	I-6
Q720	I-7
Q902	E-2
Q903	E-2
Q904	D-7
Q905	B-7
Q908	A-7
Q909	A-7
Q910	B-7
Q911	E-4

IF-3
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IF-39 (Y/C SIGNAL SELECT, SHARPNESS, NOISE CANCEL, YX FILTER Y/C SIGNAL OUT, AUDIO SIGNAL SELECT POWER SUPPLY DISTRIBUTE), TR-40 (S VIDEO IN/OUT), JB-4 (LINE IN/OUT), JB-5 (MONITOR OUT) PRINTED WIRING BOARI

— Ref. No. IF-39 BOARD: 7000 series, TR-40 BOARD: 3000 series, JB-4 BOARD: 3000 series, JB-5 BOARD: 3000 series —

IF-39 BOARD, COMPLETE
****

< DIODE >

D001	8-719-104-34	DIODE	1S2836
D002	8-719-104-34	DIODE	1S2836
D003	8-719-104-34	DIODE	1S2836
D004	8-719-104-34	DIODE	1S2836
D010	8-719-800-76	DIODE	1SS226
D051	8-719-104-34	DIODE	1S2836
D052	8-719-104-34	DIODE	1S2836
D053	8-719-104-34	DIODE	1S2836
D054	8-719-104-34	DIODE	1S2836
D060	8-719-800-76	DIODE	1SS226
D165	8-719-400-18	DIODE	MA152WK
D166	8-719-400-18	DIODE	MA152WK
D167	8-719-800-76	DIODE	1SS226
D168	8-719-800-76	DIODE	1SS226
D169	8-719-800-76	DIODE	1SS226
D170	8-719-800-76	DIODE	1SS226
D171	8-719-104-34	DIODE	1S2836
D301	8-719-400-18	DIODE	MA152WK
D901	8-719-400-18	DIODE	MA152WK
D902	8-719-400-18	DIODE	MA152WK
D903	8-719-104-34	DIODE	1S2836
D904	8-719-400-18	DIODE	MA152WK

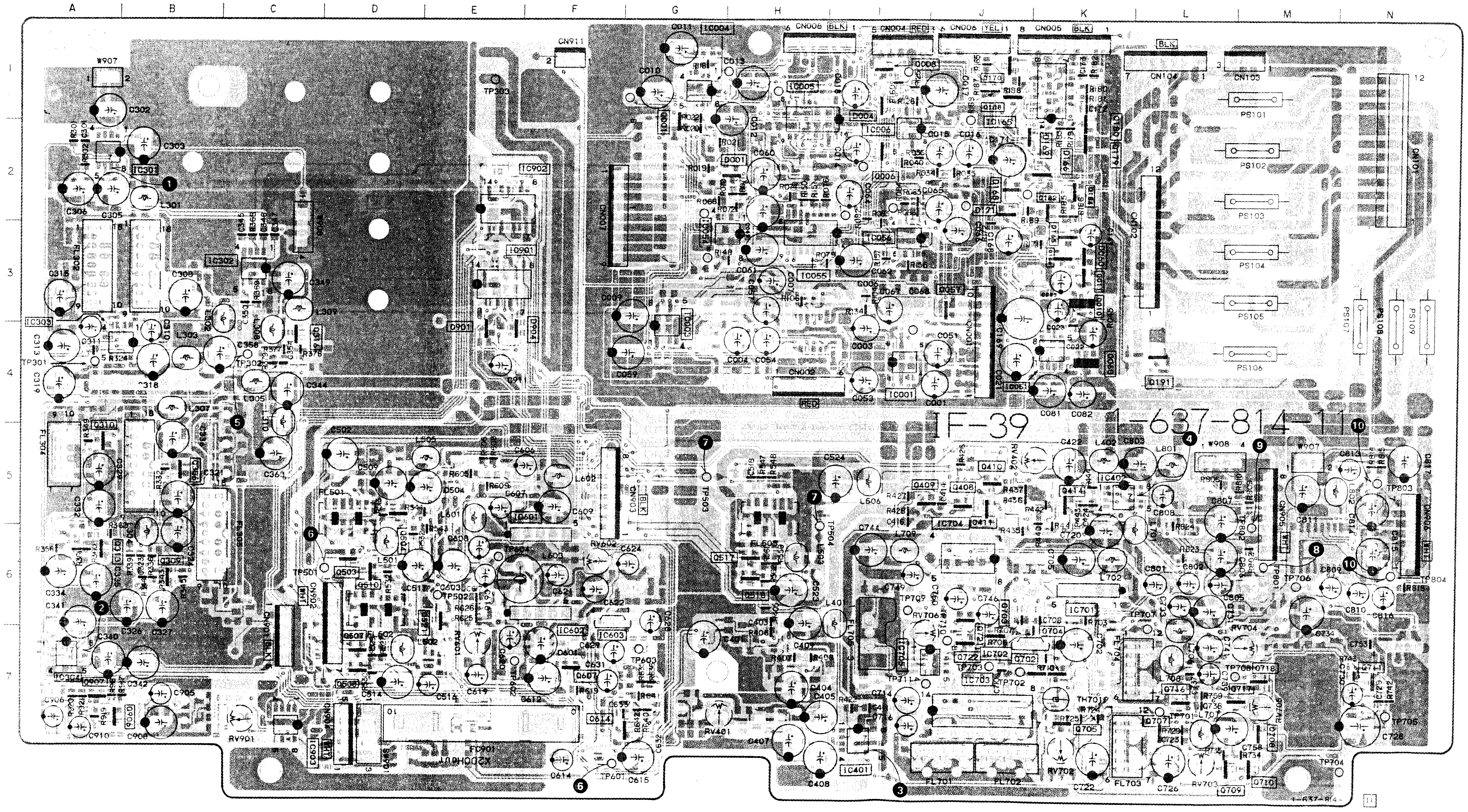
< IC >

IC001	8-759-981-92	IC	RC4558M
IC003	8-759-981-92	IC	RC4558M
IC004	8-759-981-92	IC	RC4558M
IC005	8-759-932-64	IC	BU4052BF
IC006	8-759-981-92	IC	RC4558M
IC051	8-759-981-92	IC	RC4558M
IC054	8-759-981-92	IC	RC4558M
IC055	8-759-932-64	IC	BU4052BF
IC056	8-759-981-92	IC	RC4558M
IC165	8-759-200-67	IC	TC4001BF
IC301	8-759-710-86	IC	NJM2233BM
IC302	8-759-711-32	IC	NJM2245M
IC303	8-759-711-32	IC	NJM2245M
IC304	8-759-710-86	IC	NJM2233BM
IC401	8-759-710-07	IC	NJM2234M
IC402	8-759-710-07	IC	NJM2234M
IC601	8-759-200-60	IC	TA7060AP
IC602	8-759-200-60	IC	TA7060AP
IC603	8-759-400-06	IC	AN608P
IC701	8-759-200-60	IC	TA7060AP
IC702	8-759-402-33	IC	AN607P
IC703	8-752-201-30	IC	CX22013
IC704	8-759-969-13	IC	SN16913P
IC705	8-759-101-12	IC	uPC311G2
IC801	8-752-009-51	IC	CX20095A
IC802	8-752-009-51	IC	CX20095A
IC901	8-759-009-10	IC	MC14069UBF
IC901	8-759-009-10	IC	MC14069UBF
IC902	8-759-009-10	IC	MC14069UBF
IC902	8-759-009-10	IC	MC14069UBF
IC903	8-759-100-93	IC	uPC393G2

< TRANSISTOR >

Q001	8-729-202-38	TRANSISTOR	2SC3326N
Q002	8-729-202-38	TRANSISTOR	2SC3326N
Q003	8-729-202-38	TRANSISTOR	2SC3326N
Q004	8-729-202-38	TRANSISTOR	2SC3326N
Q005	8-729-202-38	TRANSISTOR	2SC3326N
Q006	8-729-202-38	TRANSISTOR	2SC3326N
Q007	8-729-202-38	TRANSISTOR	2SC3326N
Q008	8-729-202-38	TRANSISTOR	2SC3326N
Q010	8-729-140-75	TRANSISTOR	2SD999
Q011	8-729-901-06	TRANSISTOR	DTA144EK
Q051	8-729-202-38	TRANSISTOR	2S
Q052	8-729-202-38	TRANSISTOR	2S
Q053	8-729-202-38	TRANSISTOR	2S
Q054	8-729-202-38	TRANSISTOR	2S
Q055	8-729-202-38	TRANSISTOR	2S
Q056	8-729-202-38	TRANSISTOR	2S
Q057	8-729-202-38	TRANSISTOR	2S
Q060	8-729-101-07	TRANSISTOR	2S
Q061	8-729-901-01	TRANSISTOR	DT
Q165	8-729-901-06	TRANSISTOR	DT

IF-39 BOARD (COMPONENT SIDE)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IF-39 1-637-814-11
CN911
CN006 BLK
CN004 RED
CN008 YEL
CN005 BLK
CN104
CN103
PS101
PS102
PS103
PS104
PS105
PS106
PS107
PS108
PS109
CN002
CN101
TP301
TP302
TP303
TP501
TP503
TP504
TP601
TP603
TP704
TP705
TP706
TP801
TP803
TP804
W907
W908
RV401
RV601
RV704
RV705
RV706
RV901
FL701
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FL703
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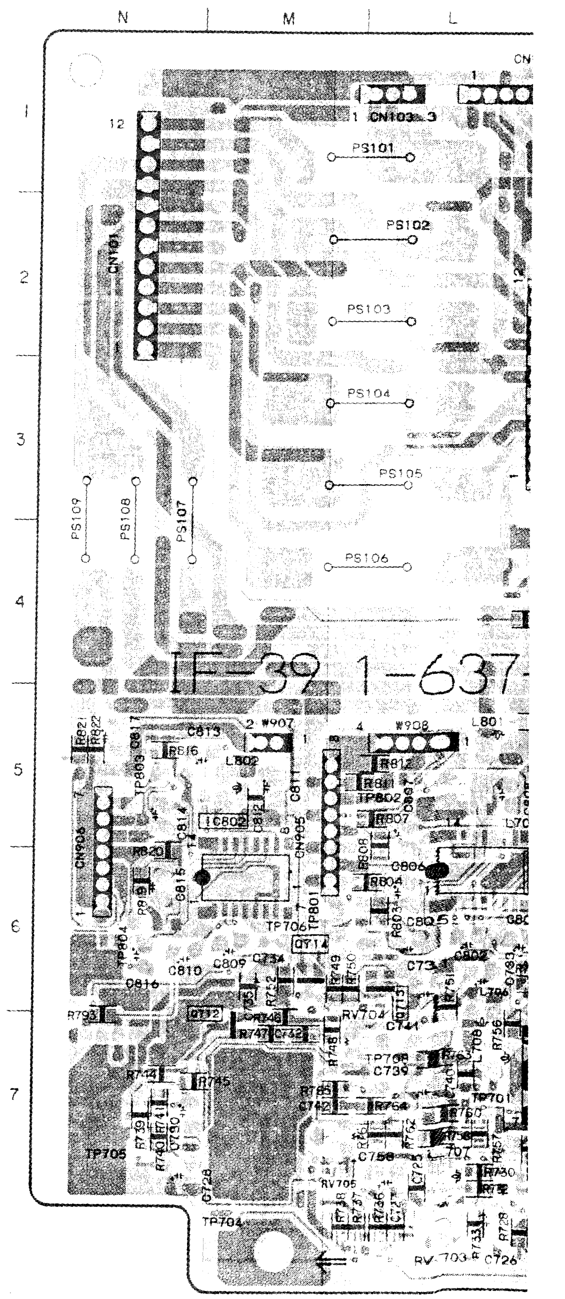
IF-39 BOARD (CONDUCTOR SIDE)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IF-39 1-637
CN101
CN103
PS101
PS102
PS103
PS104
PS105
PS106
PS107
PS108
PS109
W907
W908
TP705
TP706
TP801
TP802
RV704
RV705

JB-5 (MONITOR OUT) PRINTED WIRING BOARDS

OR >

			2SC3326N
			2SC3326N
			2SC3326N
			2SC3326N
			2SC3326N
			2SC3326N
			2SC3326N
			2SC3326N
			2SD999
			DTA144EK
Q051	8-729-202-38	TRANSISTOR	2SC3326N
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Q061	8-729-901-01	TRANSISTOR	DTC144EK
Q165	8-729-901-06	TRANSISTOR	DTA144EK
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Q177	8-729-901-06	TRANSISTOR	DTA144EK
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Q601	8-729-100-66	TRANSISTOR	2SC1623
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Q616			
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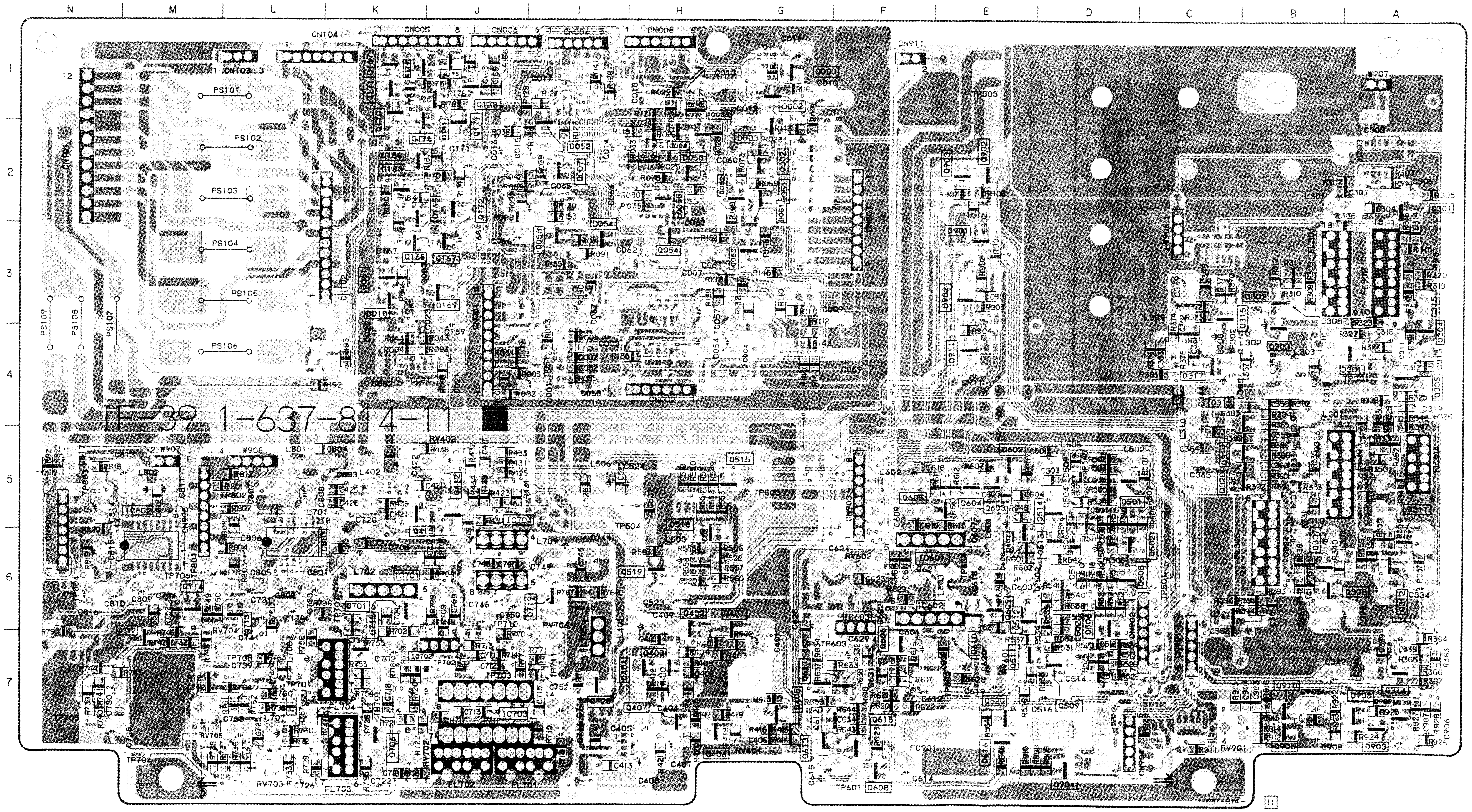
IF-39 BOARD (CONDUCTOR SIDE)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IF-39 1-637-814-11
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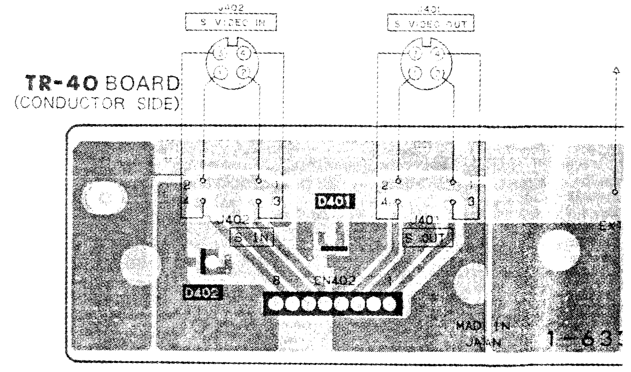
TR-40 BOARD (CONDUCTOR SIDE)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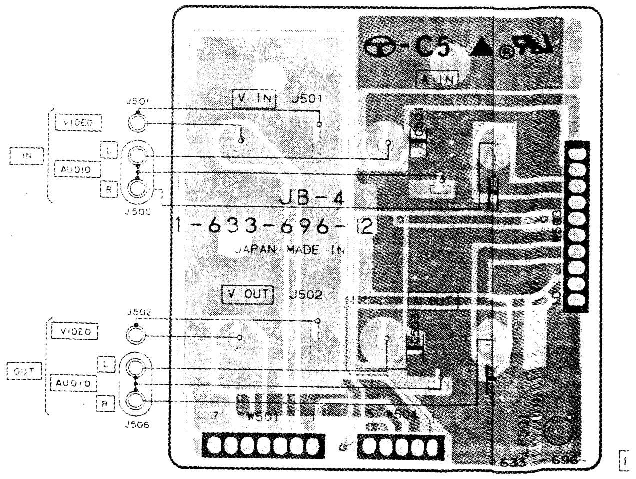
J401
S VIDEO OUT
D401
D402
CN402
MADE IN JAPAN
1-63

JB-4 BOARD (CONDUCTOR SIDE)


C5
V IN
J501
VIDEO
AUDIO
IN
L
R
J503
JB-4
1-633-696-12
JAPAN MADE IN
V OUT
J502
VIDEO
AUDIO
OUT
L
R
J504
J505
J506
CN501
CN502

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	-729-901-01	TRANSISTOR	DTC144EK
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Q601	8-729-100-66	TRANSISTOR	2SC1623
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Q701	8-729-100-66	TRANSISTOR	2SC1623
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Q718	8-729-100-66	TRANSISTOR	2SC1623
Q719	8-729-100-66	TRANSISTOR	2SC1623
Q720	8-729-100-66	TRANSISTOR	2SC1623
Q721	8-729-320-17	TRANSISTOR	2SA1122-CD
Q722	8-729-100-66	TRANSISTOR	2SC1623
Q901	8-729-901-01	TRANSISTOR	DTC144EK
Q902	8-729-901-01	TRANSISTOR	DTC144EK
Q903	8-729-901-01	TRANSISTOR	DTC144EK
Q904	8-729-901-01	TRANSISTOR	DTC144EK
Q905	8-729-901-05	TRANSISTOR	DTA124EK
Q906	8-729-100-66	TRANSISTOR	2SC1623
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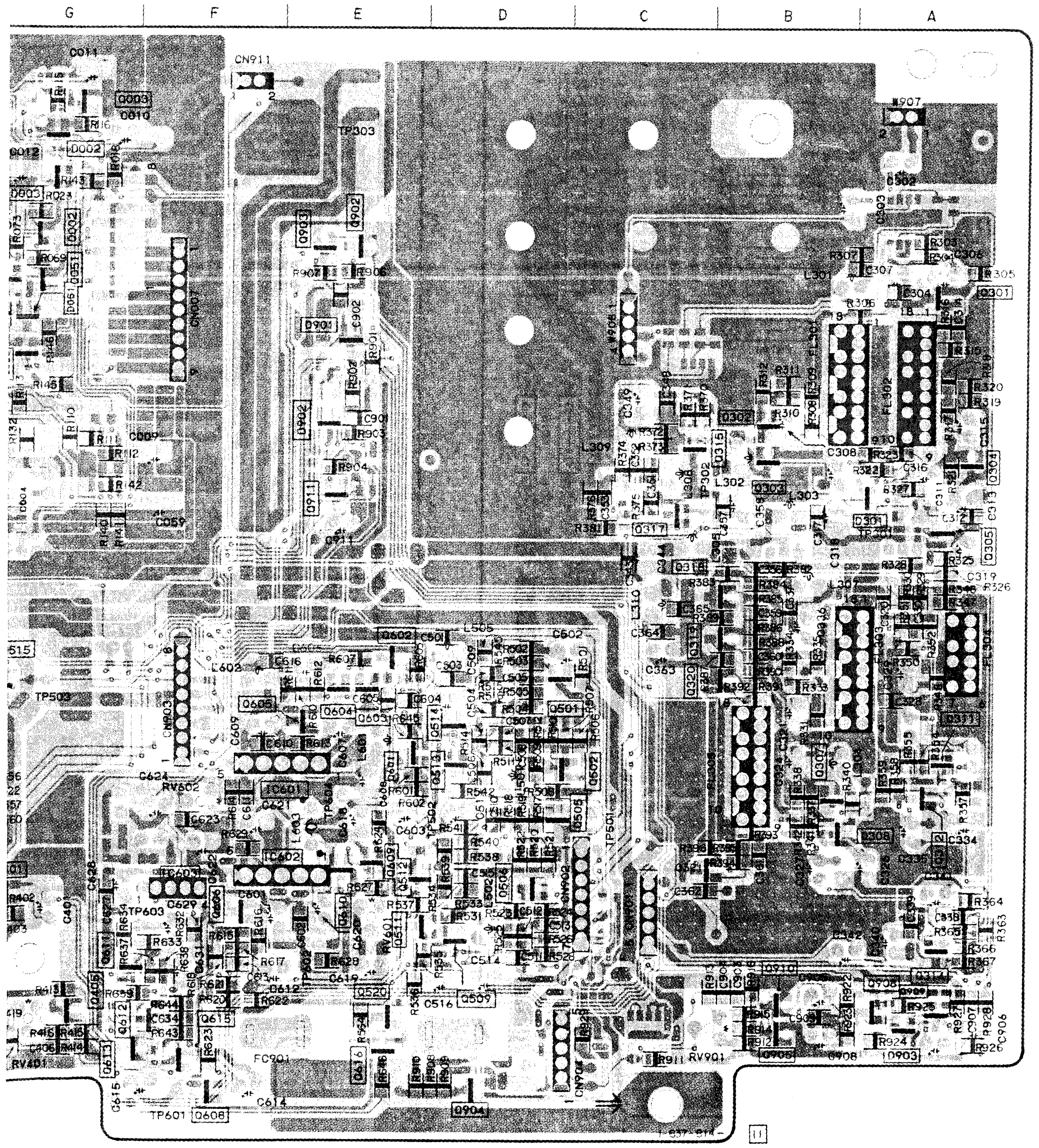
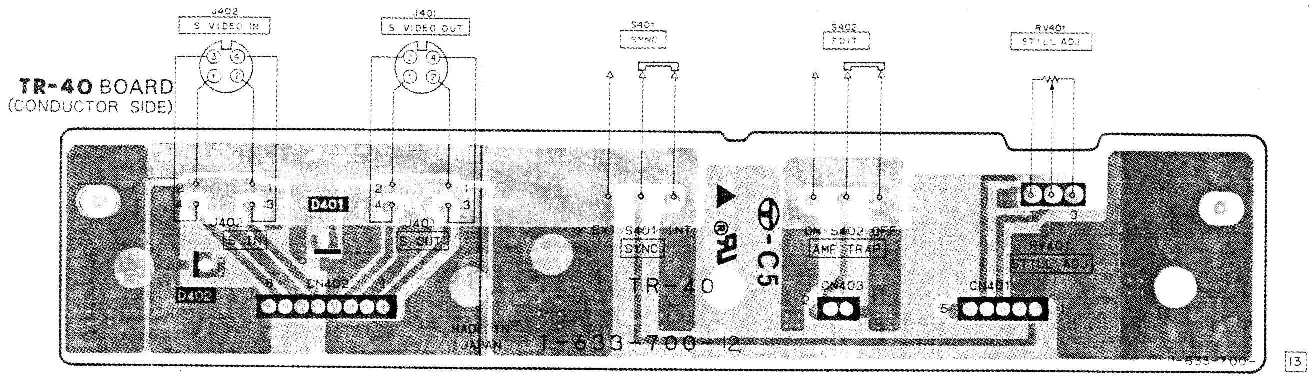
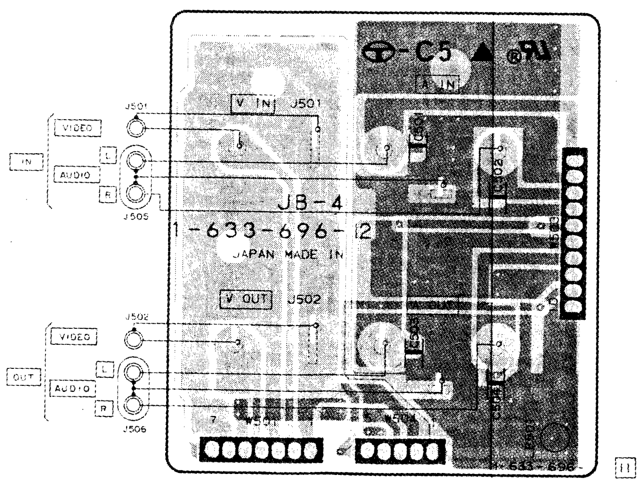


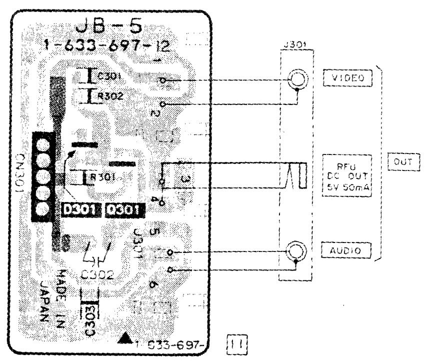
TR-40 BOARD
(CONDUCTOR SIDE)



JB-4 BOARD (CONDUCTOR SIDE)



JB-5 BOARD (CONDUCTOR SIDE)



JB-5 BOARD
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Q301 8-729-216-22 TRANSISTOR 2SA1162

IF-39 (Y/C SIGNAL SELECT, SHARPNESS, NOISE CANCEL, YX FILTER Y/C SIGNAL OUT, AUDIO SIGNAL SELECT POWER SUPPLY DISTRIBUTE), TR-40 (S VIDEO IN/OUT), JB-4 (LINE IN/OUT), JB-5 (MONITOR OUT) PRINTED WIRING BOARDS

— Ref. No. IF-39 BOARD: 7000 series, TR-40 BOARD: 3000 series, JB-4 BOARD: 3000 series, JB-5 BOARD: 3000 series —

IF-39 BOARD, COMPLETE
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D002	8-719-104-34	DIODE	1S2836
D003	8-719-104-34	DIODE	1S2836
D004	8-719-104-34	DIODE	1S2836
D010	8-719-800-76	DIODE	1SS226
D051	8-719-104-34	DIODE	1S2836
D052	8-719-104-34	DIODE	1S2836
D053	8-719-104-34	DIODE	1S2836
D054	8-719-104-34	DIODE	1S2836
D060	8-719-800-76	DIODE	1SS226
D165	8-719-400-18	DIODE	MA152WK
D166	8-719-400-18	DIODE	MA152WK
D167	8-719-800-76	DIODE	1SS226
D168	8-719-800-76	DIODE	1SS226
D169	8-719-800-76	DIODE	1SS226
D170	8-719-800-76	DIODE	1SS226
D171	8-719-104-34	DIODE	1S2836
D301	8-719-400-18	DIODE	MA152WK
D901	8-719-400-18	DIODE	MA152WK
D902	8-719-400-18	DIODE	MA152WK
D903	8-719-104-34	DIODE	1S2836
D904	8-719-400-18	DIODE	MA152WK

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IC006	8-759-981-92	IC	RC4558M
IC051	8-759-981-92	IC	RC4558M
IC054	8-759-981-92	IC	RC4558M
IC055	8-759-932-64	IC	BU4052BF
IC056	8-759-981-92	IC	RC4558M
IC165	8-759-200-67	IC	TC4001BF
IC301	8-759-710-86	IC	NJM2233BM
IC302	8-759-711-32	IC	NJM2245M
IC303	8-759-711-32	IC	NJM2245M
IC304	8-759-710-86	IC	NJM2233BM
IC401	8-759-710-07	IC	NJM2234M
IC402	8-759-710-07	IC	NJM2234M
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IC602	8-759-200-60	IC	TA7060AP
IC603	8-759-400-06	IC	AN608P
IC701	8-759-200-60	IC	TA7060AP
IC702	8-759-402-33	IC	AN607P
IC703	8-752-201-30	IC	CX22013
IC704	8-759-969-13	IC	SN16913P
IC705	8-759-101-12	IC	uPC311G2
IC801	8-752-009-51	IC	CX20095A
IC802	8-752-009-51	IC	CX20095A
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Q004	8-729-202-38	TRANSISTOR	2SC3326N
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Q008	8-729-202-38	TRANSISTOR	2SC3326N
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Q011	8-729-901-06	TRANSISTOR	DTA144EK
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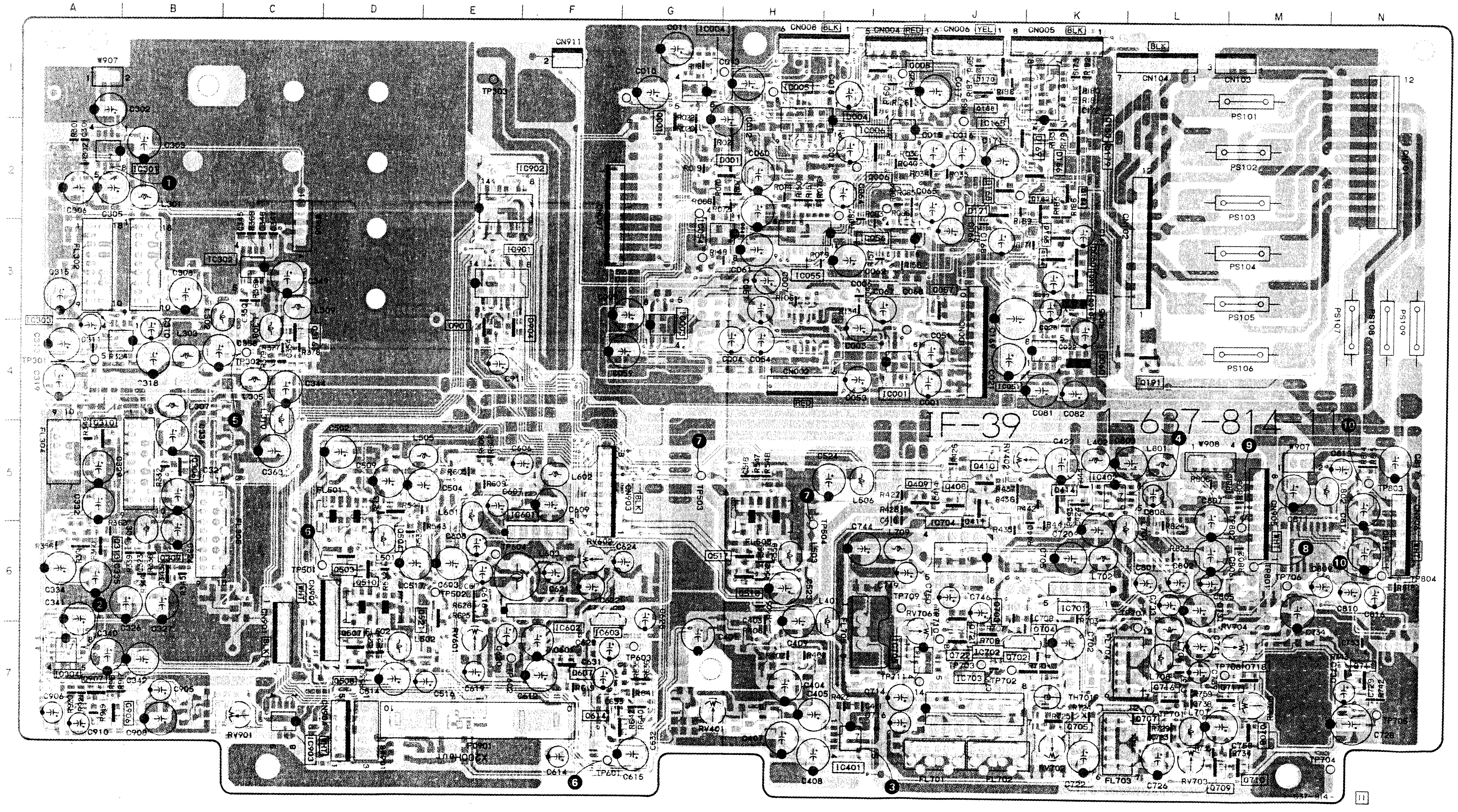
Q056	8-729-202-38	TRANSISTOR	2SC3326N
Q057	8-729-202-38	TRANSISTOR	2SC3326N
Q060	8-729-101-07	TRANSISTOR	2SB798-DL
Q061	8-729-901-01	TRANSISTOR	DTC144EK
Q165	8-729-901-06	TRANSISTOR	DTA144EK

IF-39 BOARD (COMPONENT SIDE)


A
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J
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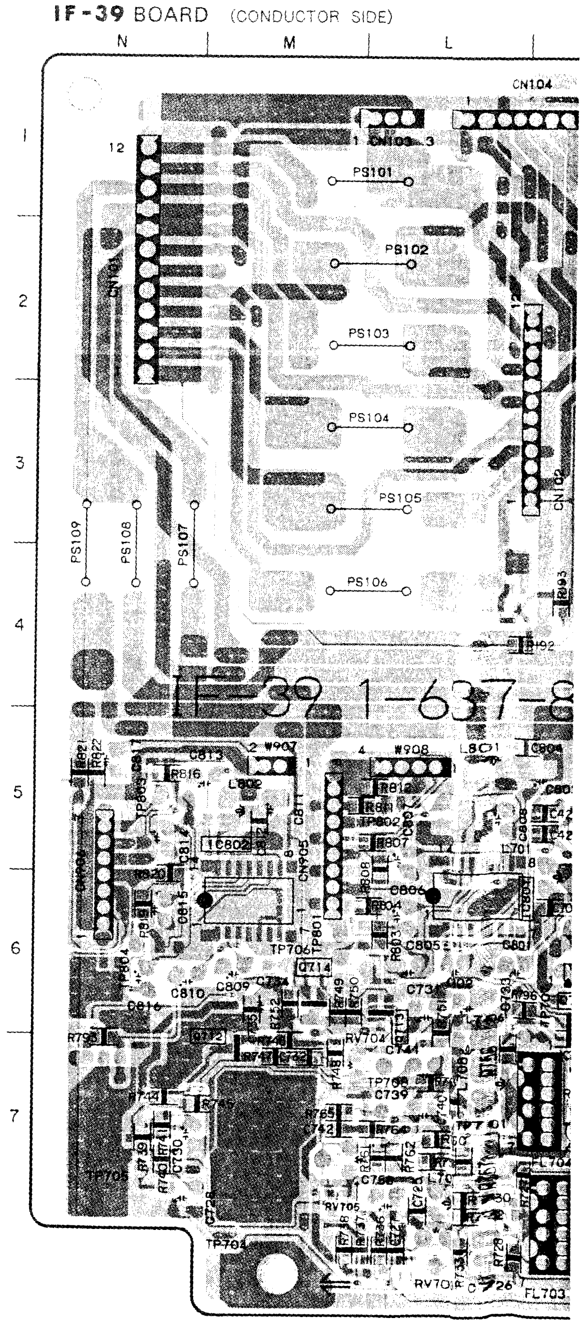
CN008
CN004
CN006
CN005
CN911
CN104
CN103
PS101
PS102
PS103
PS104
PS105
PS106
PS107
PS108
PS109
IF-39 1-637-814-11
FL701
FL702
FL703
RV901
RV401
RV601
RV704
TP503
TP601
TP704
TP804
IC001
IC301
IC401
IC601
IC602
IC701
IC902
IC901

IF-39 BOARD (CONDUCTOR SIDE)


N
M
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CN104
CN103
PS101
PS102
PS103
PS104
PS105
PS106
PS107
PS108
PS109
IF-39 1-637-8

JB-4 (LINE IN/OUT), JB-5 (MONITOR OUT) PRINTED WIRING BOARDS

< TRANSISTOR >

	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-202-38	TRANSISTOR	2SC3326N
	8-729-140-75	TRANSISTOR	2SD999
	8-729-901-06	TRANSISTOR	DTA144EK
Q051	8-729-202-38	TRANSISTOR	2SC3326N
Q052	8-729-202-38	TRANSISTOR	2SC3326N
Q053	8-729-202-38	TRANSISTOR	2SC3326N
Q054	8-729-202-38	TRANSISTOR	2SC3326N
Q055	8-729-202-38	TRANSISTOR	2SC3326N
Q056	8-729-202-38	TRANSISTOR	2SC3326N
Q057	8-729-202-38	TRANSISTOR	2SC3326N
Q060	8-729-101-07	TRANSISTOR	2SB798-DL
Q061	8-729-901-01	TRANSISTOR	DTC144EK
Q165	8-729-901-06	TRANSISTOR	DTA144EK
Q166	8-729-901-01	TRANSISTOR	DTC144EK
Q167	8-729-100-66	TRANSISTOR	2SC1623
Q168	8-729-901-06	TRANSISTOR	DTA144EK
Q169	8-729-901-06	TRANSISTOR	DTA144EK
Q170	8-729-901-06	TRANSISTOR	DTA144EK
Q171	8-729-901-06	TRANSISTOR	DTA144EK
Q172	8-729-100-66	TRANSISTOR	2SC1623
Q174	8-729-901-06	TRANSISTOR	DTA144EK
Q175	8-729-901-06	TRANSISTOR	DTA144EK
Q176	8-729-901-06	TRANSISTOR	DTA144EK
Q177	8-729-901-06	TRANSISTOR	DTA144EK
Q178	8-729-901-01	TRANSISTOR	DTC144EK
Q179	8-729-901-06	TRANSISTOR	DTA144EK
Q180	8-729-901-01	TRANSISTOR	DTC144EK
Q181	8-729-901-01	TRANSISTOR	DTC144EK
Q182	8-729-216-22	TRANSISTOR	2SA1162
Q183	8-729-901-01	TRANSISTOR	DTC144EK
Q184	8-729-901-01	TRANSISTOR	DTC144EK
Q186	8-729-901-06	TRANSISTOR	DTA144EK
Q188	8-729-901-06	TRANSISTOR	DTA144EK
Q191	8-729-216-22	TRANSISTOR	2SA1162
Q301	8-729-100-66	TRANSISTOR	2SC1623
Q302	8-729-100-66	TRANSISTOR	2SC1623
Q303	8-729-100-66	TRANSISTOR	2SC1623
Q304	8-729-100-66	TRANSISTOR	2SC1623
Q305	8-729-100-66	TRANSISTOR	2SC1623
Q306	8-729-100-66	TRANSISTOR	2SC1623
Q307	8-729-100-66	TRANSISTOR	2SC1623
Q308	8-729-100-66	TRANSISTOR	2SC1623
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Q314	8-729-100-66	TRANSISTOR	2SC1623
Q315	8-729-100-66	TRANSISTOR	2SC1623
Q316	8-729-100-66	TRANSISTOR	2SC1623
Q317	8-729-100-66	TRANSISTOR	2SC1623
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Q414	8-729-100-66	TRANSISTOR	2SC1623
Q501	8-729-100-66	TRANSISTOR	2SC1623
Q502	8-729-100-66	TRANSISTOR	2SC1623
Q503	8-729-901-06	TRANSISTOR	DTA144EK
Q504	8-729-100-66	TRANSISTOR	2SC1623
Q505	8-729-100-66	TRANSISTOR	2SC1623
Q506	8-729-100-66	TRANSISTOR	2SC1623
Q507	8-729-901-06	TRANSISTOR	DTA144EK
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Q516	8-729-100-66	TRANSISTOR	
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Q601	8-729-100-66	TRANSISTOR	
Q602	8-729-901-01	TRANSISTOR	
Q603	8-729-100-66	TRANSISTOR	
Q604	8-729-100-66	TRANSISTOR	
Q605	8-729-100-66	TRANSISTOR	
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Q609	8-729-100-66	TRANSISTOR	
Q610	8-729-100-66	TRANSISTOR	
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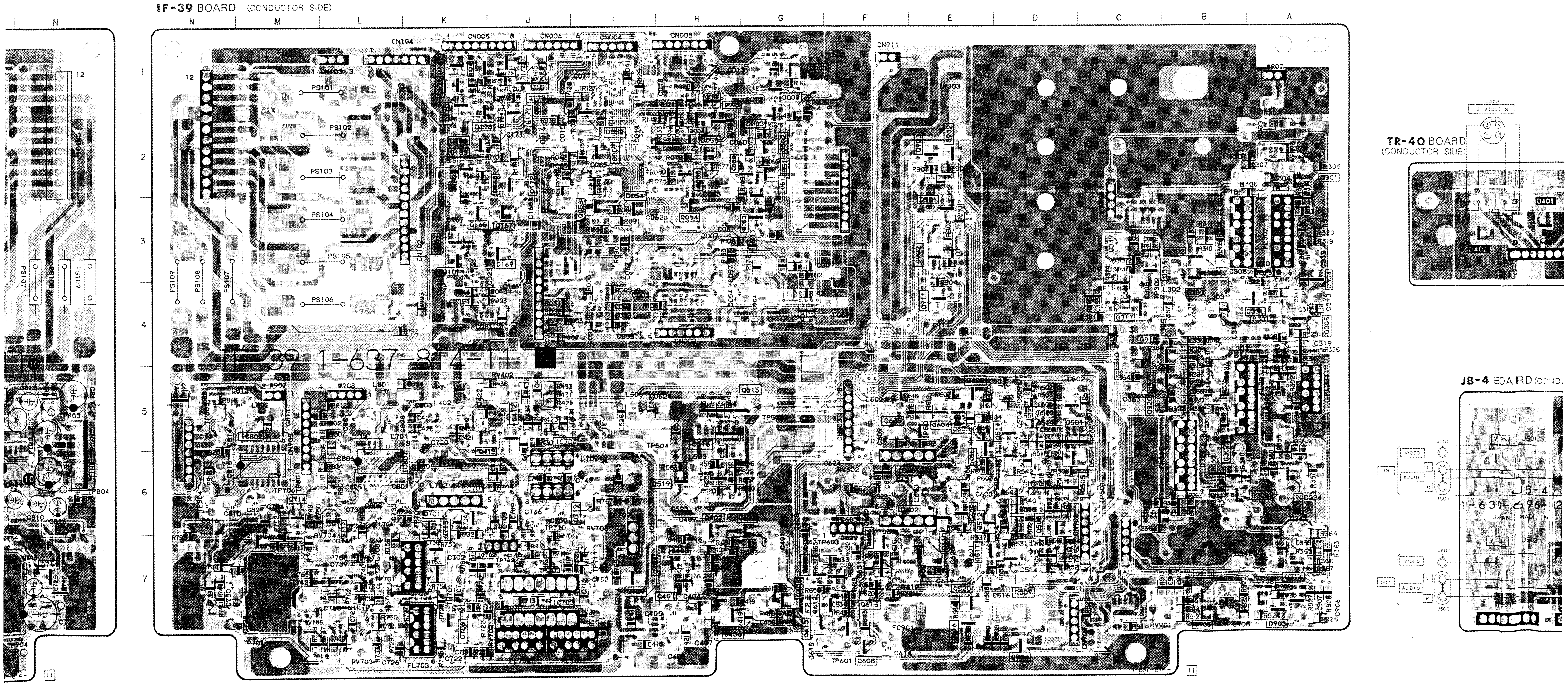
Q613	8-729-901-01	TRANSISTOR	



	901-06	TRANSISTOR	DTA144EK
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	901-01	TRANSISTOR	DTC144EK
	901-06	TRANSISTOR	DTA144EK
	901-01	TRANSISTOR	DTC144EK
	901-01	TRANSISTOR	DTC144EK
	216-22	TRANSISTOR	2SA1162
	901-01	TRANSISTOR	DTC144EK
	901-01	TRANSISTOR	DTC144EK
	901-06	TRANSISTOR	DTA144EK
	901-06	TRANSISTOR	DTA144EK
	216-22	TRANSISTOR	2SA1162
	100-66	TRANSISTOR	2SC1623
	100-66	TRANSISTOR	2SC1623
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	100-66	TRANSISTOR	2SC1623
Q310	8-729-100-66	TRANSISTOR	2SC1623
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Q413	8-729-100-66	TRANSISTOR	2SC1623
Q414	8-729-100-66	TRANSISTOR	2SC1623
Q501	8-729-100-66	TRANSISTOR	2SC1623
Q502	8-729-100-66	TRANSISTOR	2SC1623
Q503	8-729-901-06	TRANSISTOR	DTA144EK
Q504	8-729-100-66	TRANSISTOR	2SC1623
Q505	8-729-100-66	TRANSISTOR	2SC1623
Q506	8-729-100-66	TRANSISTOR	2SC1623
Q507	8-729-901-06	TRANSISTOR	DTA144EK
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Q519	8-729-100-66	TRANSISTOR	2SC1623
Q520	8-729-901-06	TRANSISTOR	DTA144EK
Q521	8-729-901-06	TRANSISTOR	DTA144EK
Q601	8-729-100-66	TRANSISTOR	2SC1623
Q602	8-729-901-01	TRANSISTOR	DTC144EK
Q603	8-729-100-66	TRANSISTOR	2SC1623
Q604	8-729-100-66	TRANSISTOR	2SC1623
Q605	8-729-100-66	TRANSISTOR	2SC1623
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Q611	8-729-100-66	TRANSISTOR	2SC1623
Q612	8-729-901-06	TRANSISTOR	DTA144EK
Q613	8-729-901-01	TRANSISTOR	DTC144EK
Q614	8-729-901-01	TRANSISTOR	DTC144EK
Q615	8-729-901-06	TRANSISTOR	DTA144EK
Q616	8-729-901-06	TRANSISTOR	DTA144EK
Q701	8-729-100-66	TRANSISTOR	2SC1623
Q702	8-729-100-66	TRANSISTOR	2SC1623
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Q704	8-729-100-66	TRANSISTOR	2SC1623
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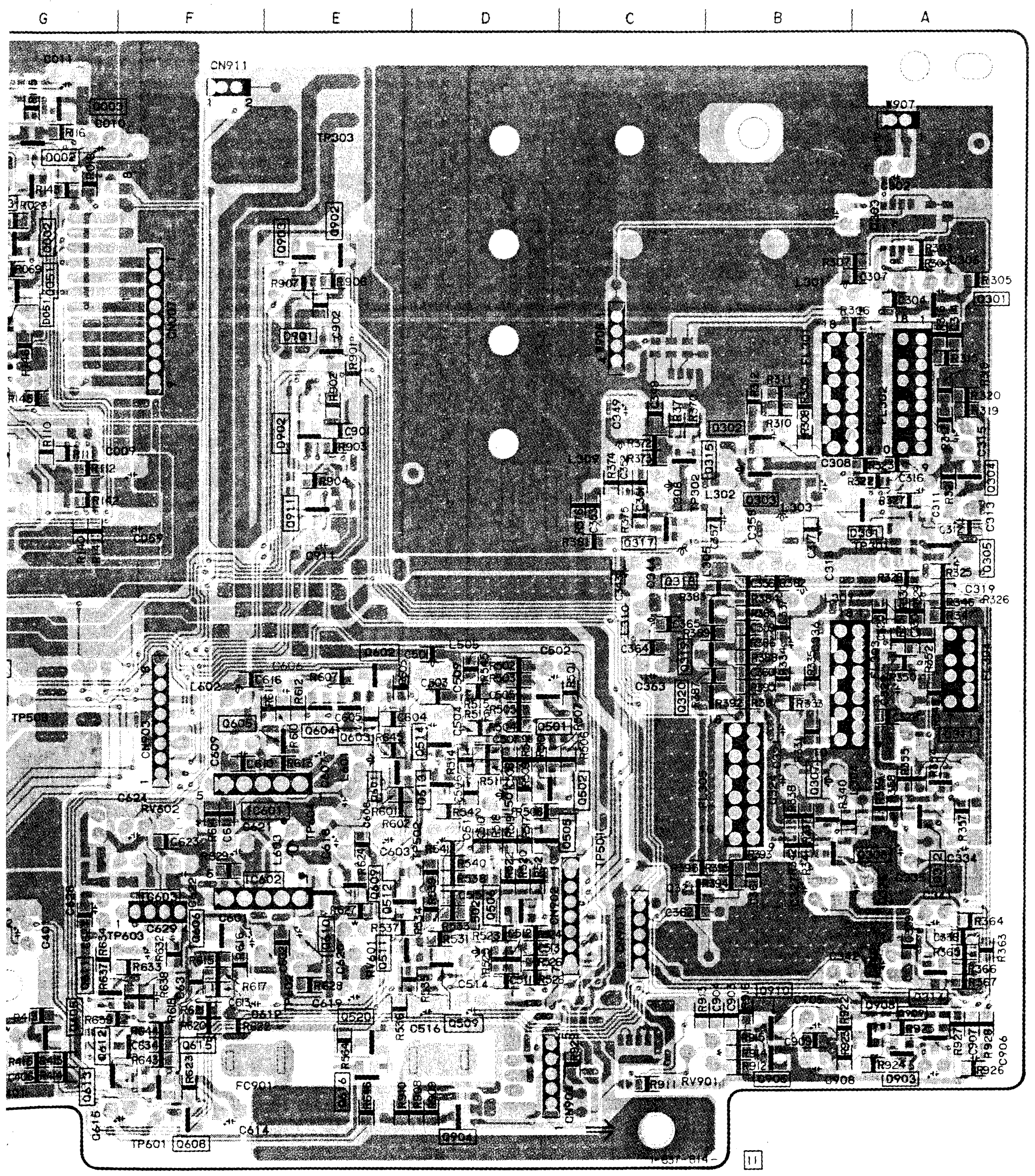
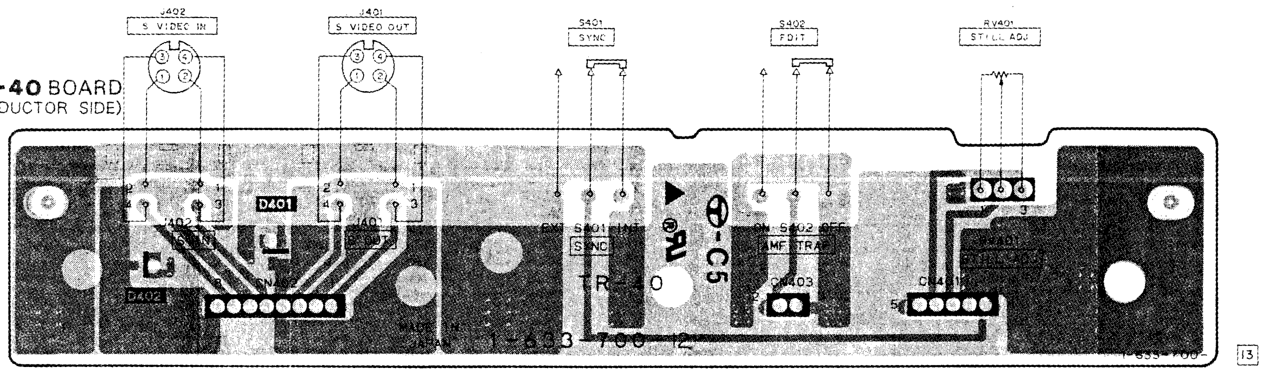
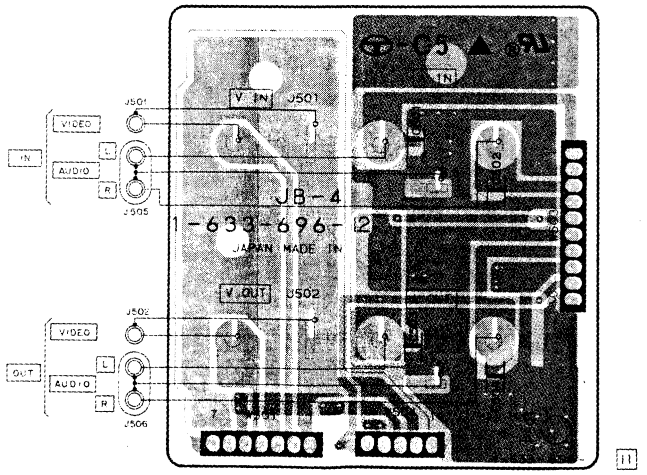
Q719	8-729-100-66	TRANSISTOR	2SC1623
Q720	8-729-100-66	TRANSISTOR	2SC1623
Q721	8-729-320-17	TRANSISTOR	2SA1122-CD
Q722	8-729-100-66	TRANSISTOR	2SC1623
Q901	8-729-901-01	TRANSISTOR	DTC144EK
Q902	8-729-901-01	TRANSISTOR	DTC144EK
Q903	8-729-901-01	TRANSISTOR	DTC144EK
Q904	8-729-901-01	TRANSISTOR	DTC144EK
Q905	8-729-901-05	TRANSISTOR	DTA124EK
Q906	8-729-100-66	TRANSISTOR	2SC1623
Q907	8-729-100-66	TRANSISTOR	2SC1623
Q908	8-729-100-66	TRANSISTOR	2SC1623
Q909	8-729-100-66	TRANSISTOR	2SC1623
Q910	8-729-100-66	TRANSISTOR	2SC1623
Q911	8-729-901-06	TRANSISTOR	DTA144EK



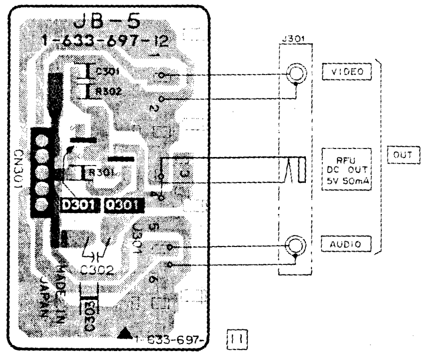
TR-40 BOARD
(CONDUCTOR SIDE)



JB-4 BOARD (CONDUCTOR SIDE)



JB-5 BOARD (CONDUCTOR SIDE)



JB-5 BOARD
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< DIODE >

D301	8-719-800-76	DIODE	1SS226

< TRANSISTOR >

Q301	8-729-216-22	TRANSISTOR	2SA1162

IF-39 BOARD
(CONDUCTOR
SIDE)

D002	G-2
D003	G-1
D010	K-3
D051	G-2
D052	I-2
D053	H-2
D054	I-2
D167	K-1
D301	A-4
D901	E-3
D902	E-3
D903	A-7
IC801	L-6
IC802	M-6
Q002	G-1
Q003	G-1
Q004	H-2
Q005	H-2
Q007	I-2
Q051	G-2
Q052	G-2
Q053	G-3
Q054	H-3
Q055	H-2
Q056	I-3
Q061	K-3
Q165	K-2
Q167	J-3
Q168	K-3
Q169	J-3
Q170	K-1
Q171	K-1
Q172	J-1
Q174	K-1
Q175	J-1
Q177	J-1
Q178	J-1
Q181	J-1
Q183	K-2
Q186	K-2
Q301	A-2
Q302	B-3
Q303	B-3
Q304	A-4
Q305	A-4
Q307	B-6
Q308	B-6
Q311	A-6
Q312	A-6
Q314	A-7
Q315	C-3
Q317	C-4
Q318	B-4
Q319	B-5
Q320	B-5
Q321	B-6
Q401	G-6
Q402	H-6
Q403	H-7
Q404	H-7
Q405	G-7
Q406	H-7
Q407	H-7
Q412	J-5
Q413	K-5
Q501	D-5
Q502	D-6
Q505	D-7
Q506	D-7
Q509	D-7
Q511	D-7
Q512	E-6
Q513	D-6
Q514	D-5
Q515	H-5
Q516	H-6
Q519	H-6
Q520	E-7
Q601	E-6
Q602	E-5
Q603	E-5
Q604	E-5
Q605	E-5
Q606	F-6
Q608	F-7
Q609	E-6
Q610	E-6
Q611	G-7
Q612	F-7
Q613	G-7
Q615	F-7
Q616	E-7
Q701	K-6
Q706	K-7
Q712	M-7
Q713	L-6
Q714	M-6
Q715	K-7
Q719	I-6
Q720	I-7
Q902	E-2
Q903	E-2
Q904	D-7
Q905	B-7
Q908	A-7
Q909	A-7
Q910	B-7
Q911	E-4

IF-39 BOARD
(COMPONENT
SIDE)

D001	H-2
D004	I-1
D060	K-3
D165	K-3
D166	K-2
D168	J-2
D169	K-2
D170	J-1
D171	J-2
D904	E-2
IC001	I-4
IC002	H-4
IC003	G-3
IC004	G-1
IC005	H-1
IC006	I-2
IC051	K-4
IC054	H-3
IC055	H-3
IC056	I-3
IC165	K-1
IC301	A-2
IC302	C-3
IC303	A-4
IC304	A-7
IC401	I-7
IC402	K-5
IC601	F-6
IC602	F-6
IC603	F-7
IC701	K-6
IC702	J-7
IC703	J-7
IC704	J-6
IC705	J-7
IC901	E-3
IC902	E-2
IC903	C-7
Q001	G-2
Q006	I-2
Q008	I-1
Q010	K-3
Q011	K-3
Q057	J-3
Q060	K-4
Q166	K-3
Q176	K-1
Q179	K-2
Q180	K-2
Q182	K-2
Q184	K-2
Q188	J-1
Q191	L-4
Q306	B-5
Q309	B-6
Q310	A-5
Q313	A-6
Q316	C-4
Q408	J-5
Q409	J-5
Q410	J-5
Q411	J-5
Q414	K-5
Q503	D-6
Q504	D-5
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Q517	H-6
Q518	H-6
Q521	E-6
Q607	F-7
Q702	K-7
Q703	J-6
Q704	K-7
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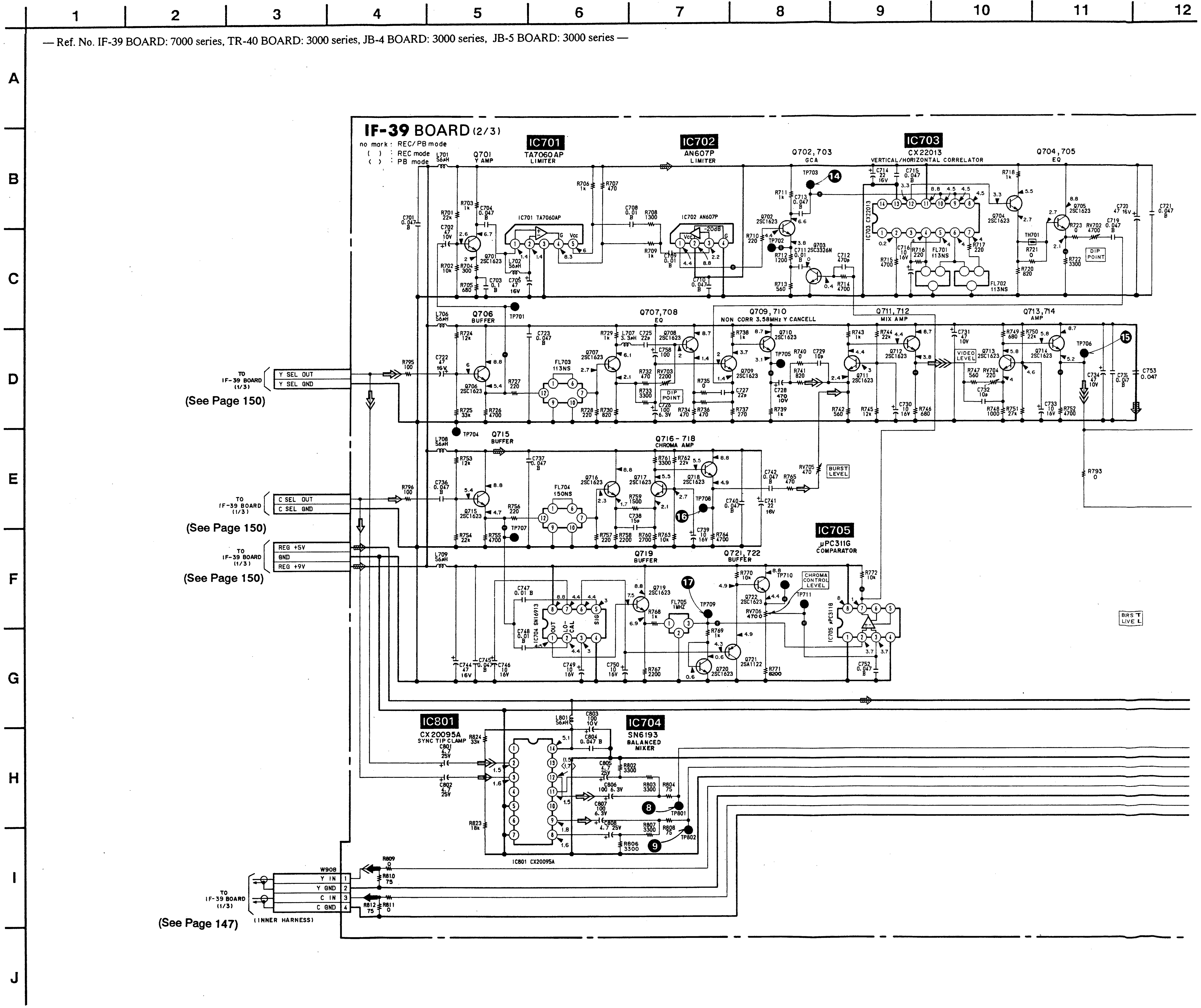
Q708	M-7
Q709	L-7
Q710	M-7
Q711	N-7
Q716	L-7
Q717	M-7
Q718	M-7
Q721	J-7
Q722	J-7
Q901	E-4
Q906	A-7
Q907	A-7

IF-39 (YX FILTER Y/C SIGNAL OUT), TR-40 (S VIDEO IN/OUT), JB-4 (LINE IN/OUT), JB-5 (MONITOR OUT) SCHEMATIC DIAGRAMS

— Ref. No. IF-39 BOARD: 7000 series, TR-40 BOARD: 3000 series, JB-4 BOARD: 3000 series, JB-5 BOARD: 3000 series —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A
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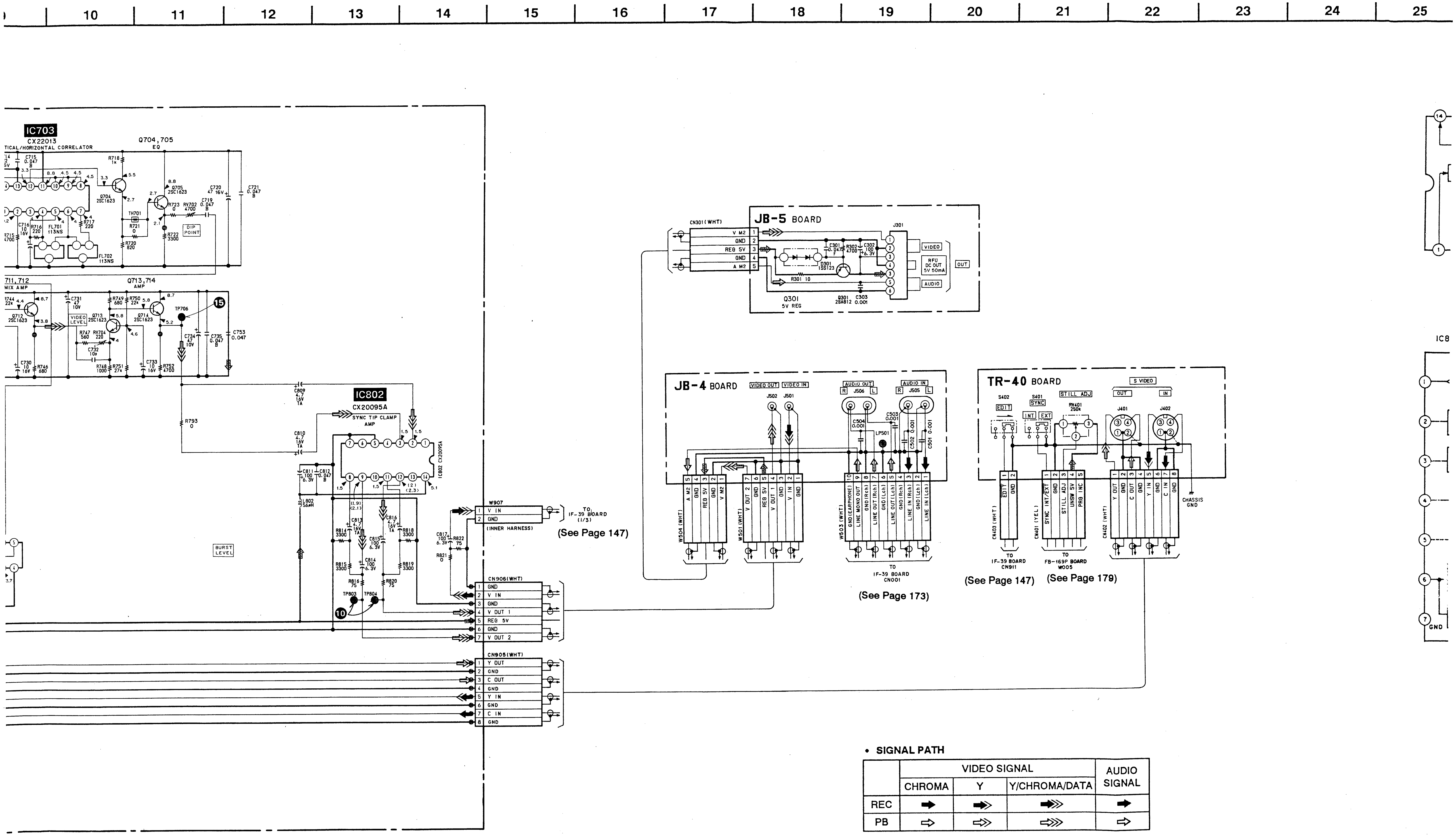
H
I
J
IF-39 BOARD (2/3)
no mark : REC/PB mode
( ) : REC mode
《 》 : PB mode
IC701
TA7060AP
LIMITER
Q701
Y AMP
IC702
AN607P
LIMITER
Q702, 703
GCA
IC703
CX22013
VERTICAL/HORIZONTAL CORRELATOR
Q704, 705
EQ
Q706
BUFFER
Q707, 708
EQ
Q709, 710
NON CORR 3.58MHz Y CANCELL
Q711, 712
MIX AMP
Q713, 714
AMP
Q715
BUFFER
Q716 - 718
CHROMA AMP
IC705
μPC311G
COMPARATOR
Q719
BUFFER
Q721, 722
BUFFER
IC801
CX20095A
SYNC TIP CLAMP
IC704
SN6193
BALANCED
MIXER
BURST LEVEL
CHROMA CONTROL LEVEL
VIDEO LEVEL
DIP POINT
TP701
TP702
TP703
TP704
TP705
TP706
TP707
TP708
TP709
TP710
TP711
TP801
TP802
TO IF-39 BOARD (1/3)
Y SEL OUT
Y SEL GND
(See Page 150)
TO IF-39 BOARD (1/3)
C SEL OUT
C SEL GND
(See Page 150)
TO IF-39 BOARD (1/3)
REG +5V
GND
REG +9V
(See Page 150)
W908
Y IN
Y GND
C IN
C GND
TO IF-39 BOARD (1/3)
(INNER HARNESS)
(See Page 147)


10
11
12
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15
16
17
18
19
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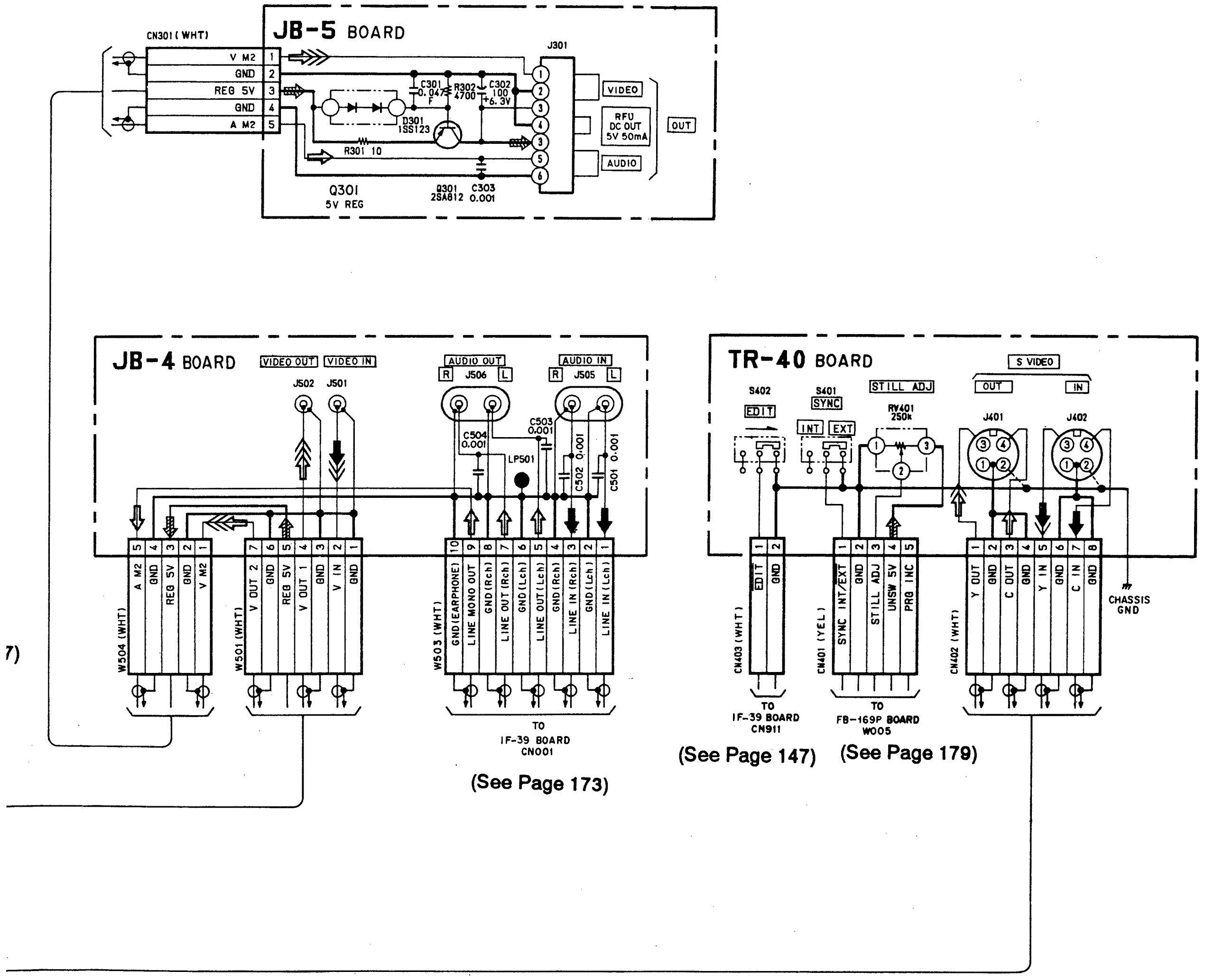
21
22
23
24
25
IC703
CX22013
VERTICAL/HORIZONTAL CORRELATOR
Q704,705
EQ
Q705
2SC1623
Q704
2SC1623
DIP POINT
Q711,712
MIX AMP
Q713,714
AMP
VIDEO LEVEL
TP706
15
IC802
CX20095A
SYNC TIP CLAMP AMP
TP803
TP804
10
BURST LEVEL
W907
V IN
GND
(INNER HARNESS)
TO IF-39 BOARD (1/3)
(See Page 147)
CN906(WHT)
GND
V IN
GND
V OUT 1
REG 5V
GND
V OUT 2
CN905(WHT)
Y OUT
GND
C OUT
GND
Y IN
GND
C IN
GND
JB-5 BOARD
CN301(WHT)
V M2
GND
REG 5V
GND
A M2
J301
VIDEO
RFU DC OUT 5V 50mA
AUDIO
OUT
Q301
5V REG
Q301
2SA812
D301
1SS123
JB-4 BOARD
VIDEO OUT
VIDEO IN
J502
J501
AUDIO OUT
J506
AUDIO IN
J505
LP501
W504 (WHT)
A M2
GND
REG 5V
GND
V M2
W501 (WHT)
V OUT 2
GND
REG 5V
V OUT 1
GND
V IN
GND
W503 (WHT)
GND(EARPHONE)
LINE MONO OUT
GND(Rch)
LINE OUT(Rch)
GND(Lch)
LINE OUT(Lch)
GND(Rch)
LINE IN(Rch)
GND(Lch)
LINE IN(Lch)
TO IF-39 BOARD CN001
(See Page 173)
TR-40 BOARD
S402
EDIT
S401
SYNC
INT
EXT
STILL ADJ
RV401
250k
S VIDEO
OUT
IN
J401
J402
CN403 (WHT)
EDIT
GND
CN401 (YEL)
SYNC INT/EXT
GND
STILL ADJ
UNSW 5V
PB8 INC
CN402 (WHT)
Y OUT
GND
C OUT
GND
Y IN
GND
C IN
GND
CHASSIS GND
TO IF-39 BOARD CN911
(See Page 147)
TO FB-169P BOARD W005
(See Page 179)
IC8
GND

- **SIGNAL PATH**

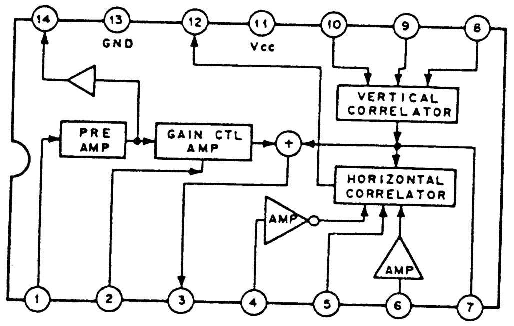
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC	➡	➡≫	➡≫≫	➡
PB	⇨	⇨≫	⇨≫≫	⇨


JB-5 BOARD
CN301 (WHT)
V M2
GND
REG 5V
GND
A M2
J301
VIDEO
RFU DC OUT 5V 50mA
OUT
AUDIO
C301 0.047 F
R302 4700
C302 100 6.3V
D301 1SS123
R301 10
Q301 5V REG
Q301 2SA812
C303 0.001
JB-4 BOARD
VIDEO OUT
VIDEO IN
J502
J501
AUDIO OUT
AUDIO IN
R
L
J506
J505
C504 0.001
C503 0.001
LP501
C502 0.001
C501 0.001
W504 (WHT)
A M2
GND
REG 5V
GND
V M2
W501 (WHT)
V OUT 2
GND
REG 5V
V OUT 1
GND
V IN
GND
W503 (WHT)
GND (EARPHONE)
LINE MONO OUT
GND (Rch)
LINE OUT (Rch)
GND (Lch)
LINE OUT (Lch)
GND (Rch)
LINE IN (Rch)
GND (Lch)
LINE IN (Lch)
TO IF-39 BOARD CN001
(See Page 173)
TR-40 BOARD
S402
EDIT
S401
SYNC
INT
EXT
STILL ADJ
RV401 250k
S VIDEO
OUT
IN
J401
J402
CN403 (WHT)
EDIT
GND
TO IF-39 BOARD CN911
(See Page 147)
CN401 (YEL)
SYNC INT/EXT
GND
STILL ADJ
UNSW 5V
PRB INC
TO FB-169P BOARD W005
(See Page 179)
CN402 (WHT)
Y OUT
GND
C OUT
GND
Y IN
GND
C IN
GND
CHASSIS GND
7)

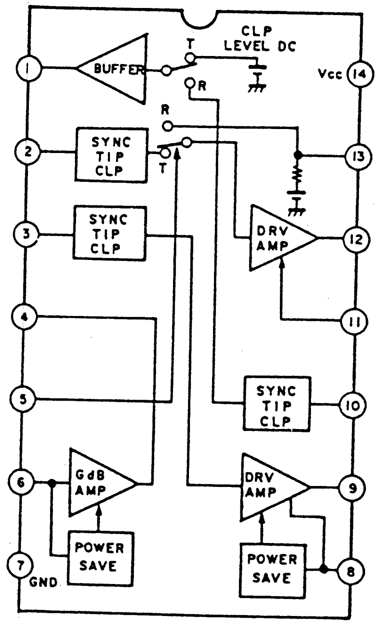
• **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC	➡	➡≫	➡⋙	➡
PB	⇨	⇨≫	⇨⋙	⇨

IC703 (CX22013)


GND
Vcc
PRE AMP
GAIN CTL AMP
VERTICAL CORRELATOR
HORIZONTAL CORRELATOR
AMP
AMP
1
2
3
4
5
6
7
8
9
10
11
12
13
14

IC801, IC802 (CX20095A)


CLP LEVEL DC
T
R
BUFFER
Vcc
SYNC TIP CLP
SYNC TIP CLP
DRV AMP
SYNC TIP CLP
6dB AMP
DRV AMP
POWER SAVE
POWER SAVE
GND
1
2
3
4
5
6
7
8
9
10
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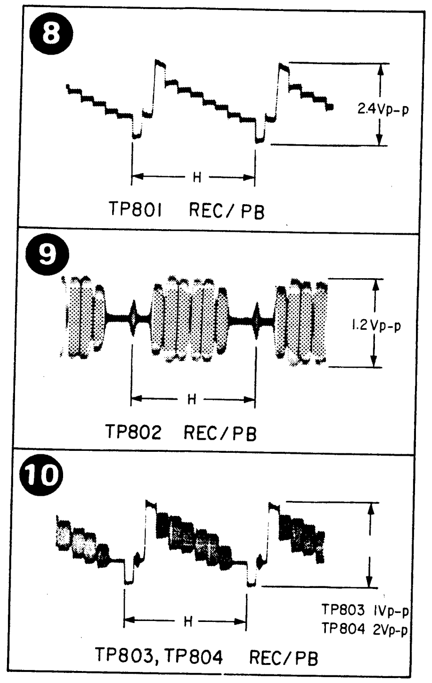
12
13
14

IF-39 BOARD (2/3)



IF-39 (Y/C SIGNAL SELECT, SHARPNESS, NOISE CANCEL, YX FILTER Y/C SIGNAL OUT, AUDIO SIGNAL SELECT POWER SUPPLY DISTRIBUTE), TR-40 (S VIDEO IN/OUT), JB-4 (LINE IN/OUT), JB-5 (MONITOR OUT) PRINTED WIRING BOARDS

— Ref. No. IF-39 BOARD: 7000 series, TR-40 BOARD: 3000 series, JB-4 BOARD: 3000 series, JB-5 BOARD: 3000 series —

IF-39 BOARD, COMPLETE
****

< DIODE >

D001	8-719-104-34	DIODE	1S2836
D002	8-719-104-34	DIODE	1S2836
D003	8-719-104-34	DIODE	1S2836
D004	8-719-104-34	DIODE	1S2836
D010	8-719-800-76	DIODE	1SS226
D051	8-719-104-34	DIODE	1S2836
D052	8-719-104-34	DIODE	1S2836
D053	8-719-104-34	DIODE	1S2836
D054	8-719-104-34	DIODE	1S2836
D060	8-719-800-76	DIODE	1SS226
D165	8-719-400-18	DIODE	MA152WK
D166	8-719-400-18	DIODE	MA152WK
D167	8-719-800-76	DIODE	1SS226
D168	8-719-800-76	DIODE	1SS226
D169	8-719-800-76	DIODE	1SS226
D170	8-719-800-76	DIODE	1SS226
D171	8-719-104-34	DIODE	1S2836
D301	8-719-400-18	DIODE	MA152WK
D901	8-719-400-18	DIODE	MA152WK
D902	8-719-400-18	DIODE	MA152WK
D903	8-719-104-34	DIODE	1S2836
D904	8-719-400-18	DIODE	MA152WK

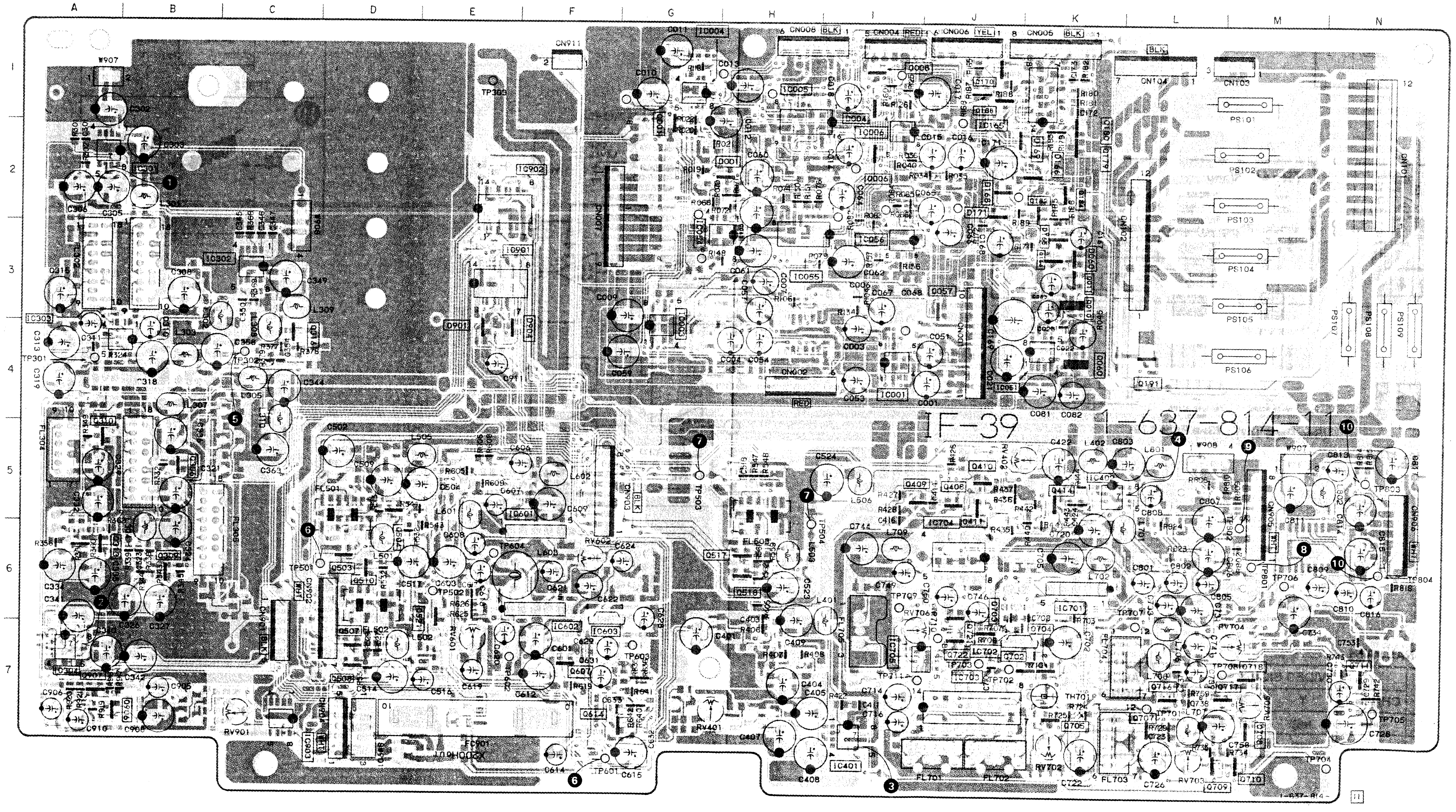
< IC >

IC001	8-759-981-92	IC	RC4558M
IC003	8-759-981-92	IC	RC4558M
IC004	8-759-981-92	IC	RC4558M
IC005	8-759-932-64	IC	BU4052BF
IC006	8-759-981-92	IC	RC4558M
IC051	8-759-981-92	IC	RC4558M
IC054	8-759-981-92	IC	RC4558M
IC055	8-759-932-64	IC	BU4052BF
IC056	8-759-981-92	IC	RC4558M
IC165	8-759-200-67	IC	TC4001BF
IC301	8-759-710-86	IC	NJM2233BM
IC302	8-759-711-32	IC	NJM2245M
IC303	8-759-711-32	IC	NJM2245M
IC304	8-759-710-86	IC	NJM2233BM
IC401	8-759-710-07	IC	NJM2234M
IC402	8-759-710-07	IC	NJM2234M
IC601	8-759-200-60	IC	TA7060AP
IC602	8-759-200-60	IC	TA7060AP
IC603	8-759-400-06	IC	AN608P
IC701	8-759-200-60	IC	TA7060AP
IC702	8-759-402-33	IC	AN607P
IC703	8-752-201-30	IC	CX22013
IC704	8-759-969-13	IC	SN16913P
IC705	8-759-101-12	IC	uPC311G2
IC801	8-752-009-51	IC	CX20095A
IC802	8-752-009-51	IC	CX20095A
IC901	8-759-009-10	IC	MC14069UBF
IC901	8-759-009-10	IC	MC14069UBF
IC902	8-759-009-10	IC	MC14069UBF
IC902	8-759-009-10	IC	MC14069UBF
IC903	8-759-100-93	IC	uPC393G2

< TRANSISTOR >

Q001	8-729-202-38	TRANSISTOR	2SC3326N
Q002	8-729-202-38	TRANSISTOR	2SC3326N
Q003	8-729-202-38	TRANSISTOR	2SC3326N
Q004	8-729-202-38	TRANSISTOR	2SC3326N
Q005	8-729-202-38	TRANSISTOR	2SC3326N
Q006	8-729-202-38	TRANSISTOR	2SC3326N
Q007	8-729-202-38	TRANSISTOR	2SC3326N
Q008	8-729-202-38	TRANSISTOR	2SC3326N
Q010	8-729-140-75	TRANSISTOR	2SD999
Q011	8-729-901-06	TRANSISTOR	DTA144EK
Q051	8-729-202-38	TRANSISTOR	2SC3326N
Q052	8-729-202-38	TRANSISTOR	2SC3326N
Q053	8-729-202-38	TRANSISTOR	2SC3326N
Q054	8-729-202-38	TRANSISTOR	2SC3326N
Q055	8-729-202-38	TRANSISTOR	2SC3326N
Q056	8-729-202-38	TRANSISTOR	2SC3326N
Q057	8-729-202-38	TRANSISTOR	2SC3326N
Q060	8-729-101-07	TRANSISTOR	2SB798-DL
Q061	8-729-901-01	TRANSISTOR	DTC144EK
Q165	8-729-901-06	TRANSISTOR	DTA144EK

IF-39 BOARD (COMPONENT SIDE)


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
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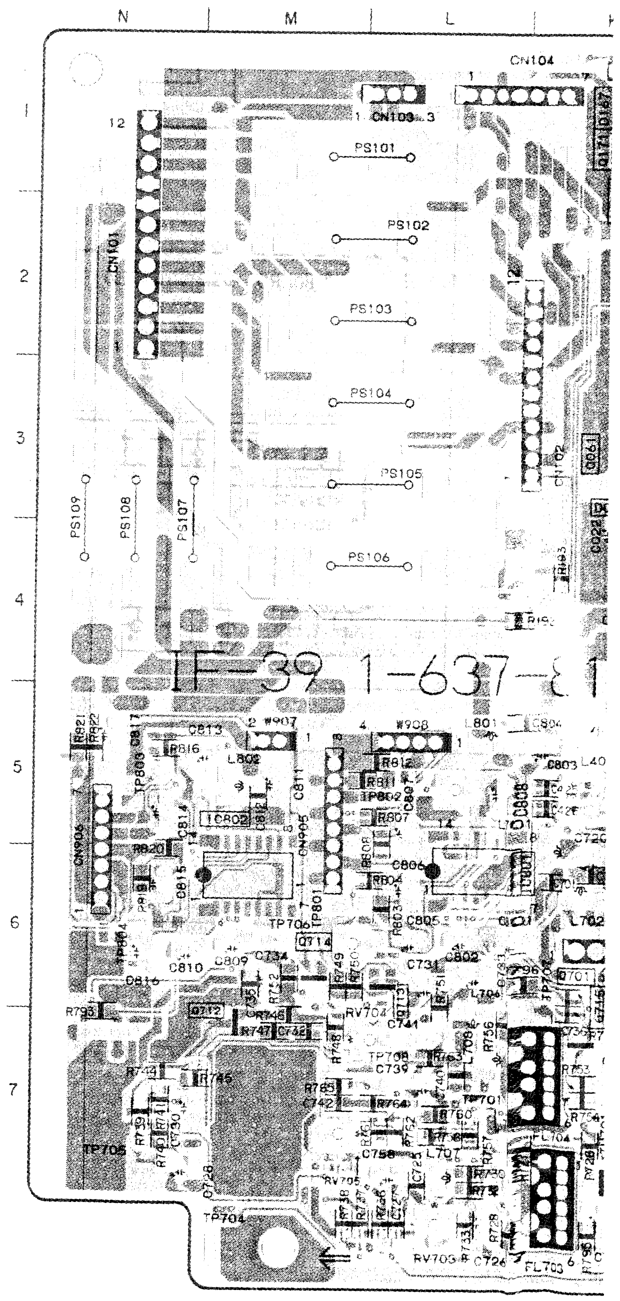
3
4
5
6
7
IF-39 1-637-814-11
CN911
CN008
CN004
CN006
CN005
CN104
CN103
CN101
CN102
PS101
PS102
PS103
PS104
PS105
PS106
PS107
PS108
PS109
IC001
IC004
IC005
IC055
IC056
IC061
IC302
IC303
IC401
IC601
IC602
IC603
IC701
IC702
IC703
IC704
IC705
IC801
IC802
IC901
IC902
W907
W908
TP301
TP303
TP501
TP503
TP504
TP601
TP604
TP705
TP706
TP804
FL501
FL502
FL701
FL702
FL703
RV601
RV602
RV701
RV702
RV703
RV704
RV901
BLK
RED
YEL

IF-39 BOARD (CONDUCTOR SIDE)


N
M
L
1
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3
4
5
6
7
IF-39 1-637-8
CN104
CN103
CN101
CN102
PS101
PS102
PS103
PS104
PS105
PS106
PS107
PS108
PS109
W907
W908
IC802
TP704
TP705
RV704
RV705

/OUT), JB-4 (LINE IN/OUT), JB-5 (MONITOR OUT) PRINTED WIRING BOARDS

< TRANSISTOR >

Q001	8-729-202-38	TRANSISTOR	2SC3326N
Q002	8-729-202-38	TRANSISTOR	2SC3326N
Q003	8-729-202-38	TRANSISTOR	2SC3326N
Q004	8-729-202-38	TRANSISTOR	2SC3326N
Q005	8-729-202-38	TRANSISTOR	2SC3326N
Q006	8-729-202-38	TRANSISTOR	2SC3326N
Q007	8-729-202-38	TRANSISTOR	2SC3326N
Q008	8-729-202-38	TRANSISTOR	2SC3326N
Q010	8-729-140-75	TRANSISTOR	2SD999
Q011	8-729-901-06	TRANSISTOR	DTA144EK
Q051	8-729-202-38	TRANSISTOR	2SC3326N
Q052	8-729-202-38	TRANSISTOR	2SC3326N
Q053	8-729-202-38	TRANSISTOR	2SC3326N
Q054	8-729-202-38	TRANSISTOR	2SC3326N
Q055	8-729-202-38	TRANSISTOR	2SC3326N
Q056	8-729-202-38	TRANSISTOR	2SC3326N
Q057	8-729-202-38	TRANSISTOR	2SC3326N
Q060	8-729-101-07	TRANSISTOR	2SB798-DL
Q061	8-729-901-01	TRANSISTOR	DTC144EK
Q165	8-729-901-06	TRANSISTOR	DTA144EK
Q166	8-729-901-01	TRANSISTOR	DTC144EK
Q167	8-729-100-66	TRANSISTOR	2SC1623
Q168	8-729-901-06	TRANSISTOR	DTA144EK
Q169	8-729-901-06	TRANSISTOR	DTA144EK
Q170	8-729-901-06	TRANSISTOR	DTA144EK
Q171	8-729-901-06	TRANSISTOR	DTA144EK
Q172	8-729-100-66	TRANSISTOR	2SC1623
Q174	8-729-901-06	TRANSISTOR	DTA144EK
Q175	8-729-901-06	TRANSISTOR	DTA144EK
Q176	8-729-901-06	TRANSISTOR	DTA144EK
Q177	8-729-901-06	TRANSISTOR	DTA144EK
Q178	8-729-901-01	TRANSISTOR	DTC144EK
Q179	8-729-901-06	TRANSISTOR	DTA144EK
Q180	8-729-901-01	TRANSISTOR	DTC144EK
Q181	8-729-901-01	TRANSISTOR	DTC144EK
Q182	8-729-216-22	TRANSISTOR	2SA1162
Q183	8-729-901-01	TRANSISTOR	DTC144EK
Q184	8-729-901-01	TRANSISTOR	DTC144EK
Q186	8-729-901-06	TRANSISTOR	DTA144EK
Q188	8-729-901-06	TRANSISTOR	DTA144EK
Q191	8-729-216-22	TRANSISTOR	2SA1162
Q301	8-729-100-66	TRANSISTOR	2SC1623
Q302	8-729-100-66	TRANSISTOR	2SC1623
Q303	8-729-100-66	TRANSISTOR	2SC1623
Q304	8-729-100-66	TRANSISTOR	2SC1623
Q305	8-729-100-66	TRANSISTOR	2SC1623
Q306	8-729-100-66	TRANSISTOR	2SC1623
Q307	8-729-100-66	TRANSISTOR	2SC1623
Q308	8-729-100-66	TRANSISTOR	2SC1623
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Q316	8-729-100-66	TRANSISTOR	2SC1623
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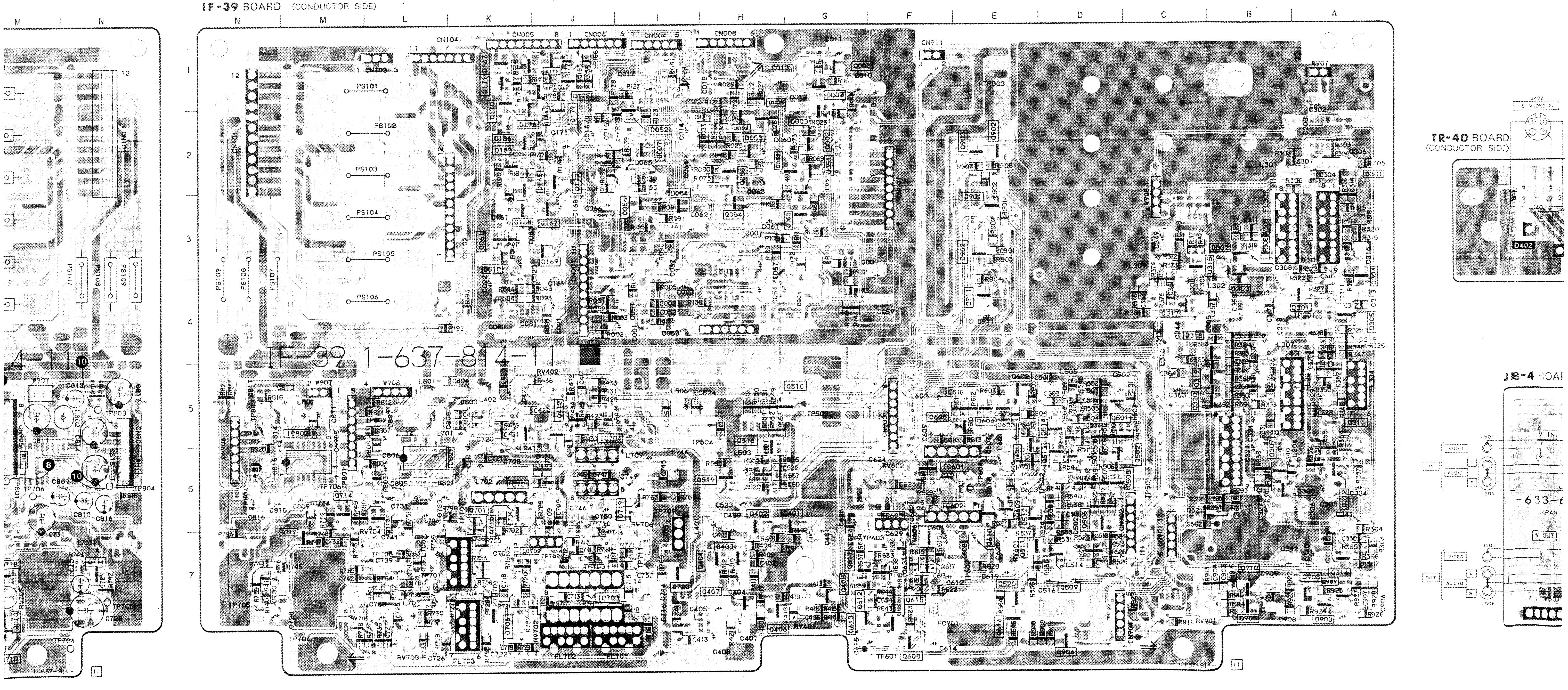
Q320	8-729-100-66	TRANSISTOR	2SC1623
Q321	8-729-100-66	TRANSISTOR	2SC1623
Q401	8-729-100-66	TRANSISTOR	2SC1623
Q402	8-729-100-66	TRANSISTOR	2SC1623
Q403	8-729-100-66	TRANSISTOR	2SC1623
Q404	8-729-100-66	TRANSISTOR	2SC1623
Q405	8-729-100-66	TRANSISTOR	2SC1623
Q406	8-729-100-66	TRANSISTOR	2SC1623
Q407	8-729-100-66	TRANSISTOR	2SC1623
Q408	8-729-100-66	TRANSISTOR	2SC1623
Q409	8-729-100-66	TRANSISTOR	2SC1623
Q410	8-729-100-66	TRANSISTOR	2SC1623
Q411	8-729-100-66	TRANSISTOR	2SC1623
Q412	8-729-100-66	TRANSISTOR	2SC1623
Q413	8-729-100-66	TRANSISTOR	2SC1623
Q414	8-729-100-66	TRANSISTOR	2SC1623
Q501	8-729-100-66	TRANSISTOR	2SC1623
Q502	8-729-100-66	TRANSISTOR	2SC1623
Q503	8-729-901-06	TRANSISTOR	DTA144EK
Q504	8-729-100-66	TRANSISTOR	2SC1623
Q505	8-729-100-66	TRANSISTOR	2SC1623
Q506	8-729-100-66	TRANSISTOR	2SC1623
Q507	8-729-901-06	TRANSISTOR	DTA144EK
Q508	8-729-100-66	TRANSISTOR	2SC1623
Q509	8-729-100-66	TRANSISTOR	2SC1623
Q510	8-729-100-66	TRANSISTOR	2SC1623
Q511	8-729-100-66	TRANSISTOR	2SC1623
Q512	8-729-100-66	TRANSISTOR	2SC1623
Q513	8-729-100-66	TRANSISTOR	2SC1623
Q514	8-729-100-66	TRANSISTOR	2SC1623
Q515	8-729-100-		
Q516	8-729-100-		
Q517	8-729-901-		
Q518	8-729-100-		
Q519	8-729-100-		
Q520	8-729-901-		
Q521	8-729-901-		
Q601	8-729-100-		
Q602	8-729-901-		
Q603	8-729-100-		
Q604	8-729-100-		
Q605	8-729-100-		
Q606	8-729-100-		
Q607	8-729-100-		
Q608	8-729-100-		
Q609	8-729-100-		
Q610	8-729-100-		
Q611	8-729-100-		
Q612	8-729-901-		
Q613	8-729-901-		

IF-39 BOARD (CONDUCTOR SIDE)

TR-40 BOARD (CONDUCTOR SIDE)

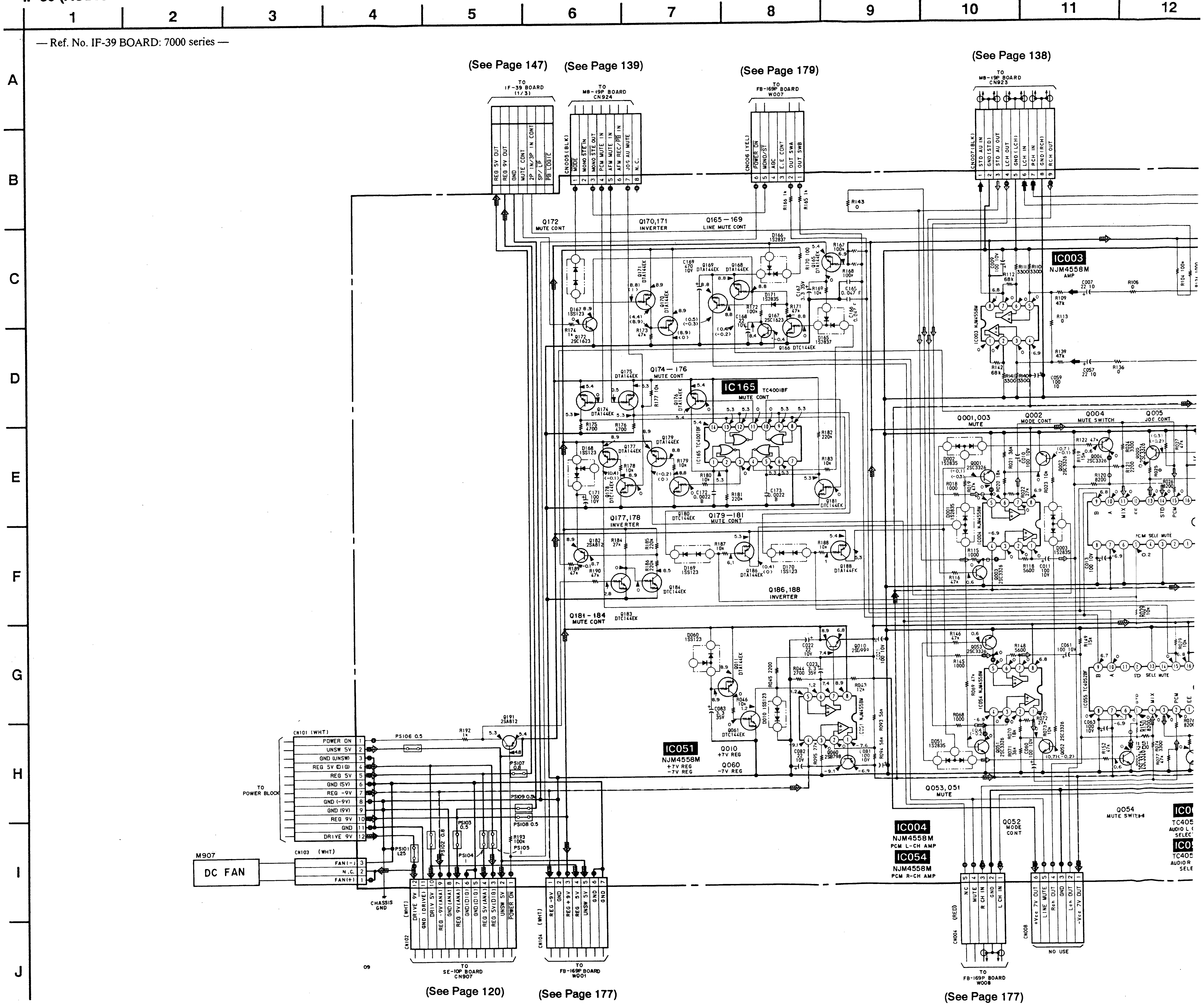


IF-39 BOARD (CONDUCTOR SIDE)	
D002	G-2
D003	G-1
D010	K-3
D051	G-2
D052	I-2
D053	H-2
D054	I-2
D167	K-1
D301	A-4
D901	E-3
D902	E-3
D903	A-7
IC801	L-6
IC802	M-6
Q002	G-1
Q003	G-1
Q004	H-2
Q005	H-2
Q007	I-2
Q051	G-2
Q052	G-2
Q053	G-3
Q054	H-3
Q055	H-2
Q056	I-3
Q061	K-3
Q165	K-2
Q167	J-3
Q168	K-3
Q169	J-3
Q170	K-1
Q171	K-1
Q172	J-1
Q174	K-1
Q175	J-1
Q177	J-1
Q178	J-1
Q181	J-1
Q183	K-2
Q186	K-2
Q301	A-2
Q302	B-3
Q303	B-3
Q304	A-4
Q305	A-4
Q307	B-6
Q308	B-6
Q311	A-6
Q312	A-6
Q314	A-7
Q315	C-3
Q317	C-4
Q318	B-4
Q319	B-5
Q320	B-5
Q321	B-6
Q401	G-6
Q402	H-6
Q403	H-7
Q404	H-7
Q405	G-7
Q406	H-7
Q407	H-7
Q412	J-5
Q413	K-5
Q501	D-5
Q502	D-6
Q505	D-7
Q506	D-7
Q509	D-7
Q511	D-7
Q512	E-6
Q513	D-6
Q514	D-5
Q515	H-5
Q516	H-6
Q519	H-6
Q520	E-7
Q601	E-6
Q602	E-5
Q603	E-5
Q604	E-5
Q605	E-5
Q606	F-6
Q608	F-7
Q609	E-6
Q610	E-6
Q611	G-7
Q612	F-7
Q613	G-7
Q615	F-7
Q616	E-7
Q701	K-6
Q706	K-7
Q712	M-7
Q713	L-6
Q714	M-6
Q715	K-7
Q719	I-6
Q720	I-7
Q902	E-2
Q903	E-2
Q904	D-7
Q905	B-7
Q908	A-7
Q909	A-7
Q910	B-7
Q911	E-4

IF-39 BOARD (COMPONENT SIDE)	
D001	H-2
D004	I-1
D060	K-3
D165	K-3
D166	K-2
D168	J-2
D169	K-2
D170	J-1
D171	J-2
D904	E-2
IC001	I-4
IC002	H-4
IC003	G-3
IC004	G-1
IC005	H-1
IC006	I-2
IC051	K-4
IC054	H-3
IC055	H-3
IC056	I-3
IC165	K-1
IC301	A-2
IC302	C-3
IC303	A-4
IC304	A-7
IC401	I-7
IC402	K-5
IC601	F-6
IC602	F-6
IC603	F-7
IC701	K-6
IC702	J-7
IC703	J-7
IC704	J-6
IC705	J-7
IC901	E-3
IC902	E-2
IC903	C-7
Q001	G-2
Q006	I-2
Q008	I-1
Q010	K-3
Q011	K-3
Q057	J-3
Q060	K-4
Q166	K-3
Q176	K-1
Q179	K-2
Q180	K-2
Q182	K-2
Q184	K-2
Q188	J-1
Q191	L-4
Q306	B-5
Q309	B-6
Q310	A-5
Q313	A-6
Q316	C-4
Q408	J-5
Q409	J-5
Q410	J-5
Q411	J-5
Q414	K-5
Q503	D-6
Q504	D-5
Q507	D-7
Q508	D-7
Q510	D-6
Q517	H-6
Q518	H-6
Q521	E-6
Q607	F-7
Q702	K-7
Q703	J-6
Q704	K-7
Q705	K-7
Q707	L-7
Q708	M-7
Q709	L-7
Q710	M-7
Q711	N-7
Q716	L-7
Q717	M-7
Q718	M-7
Q721	J-7
Q722	J-7
Q901	E-4
Q906	A-7
Q907	A-7

IF-39 (AUDIO SIGNAL SELECT POWER SUPPLY DISTRIBUTE) SCHEMATIC DIAGRAM

— Ref. No. IF-39 BOARD: 7000 series —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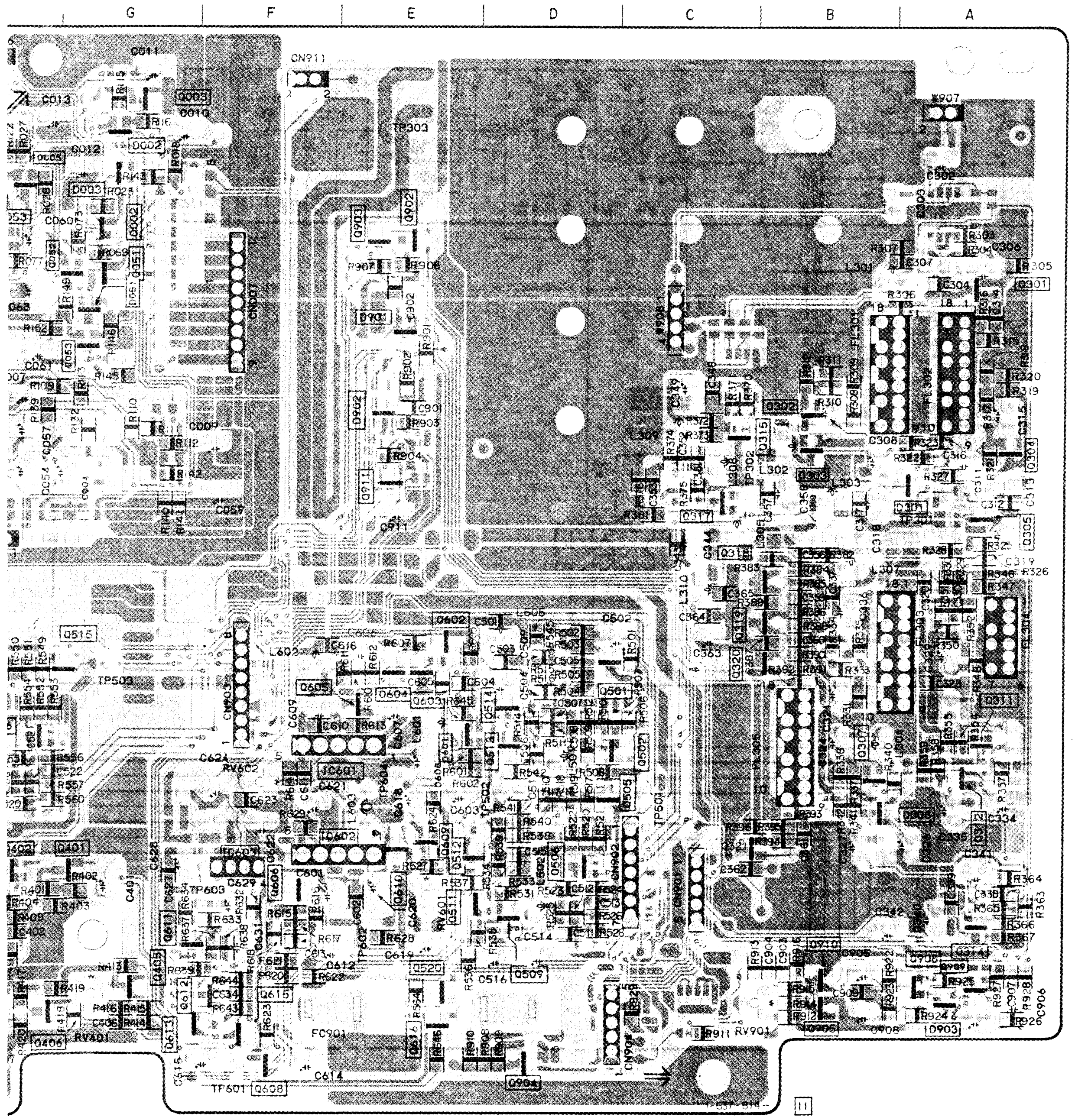
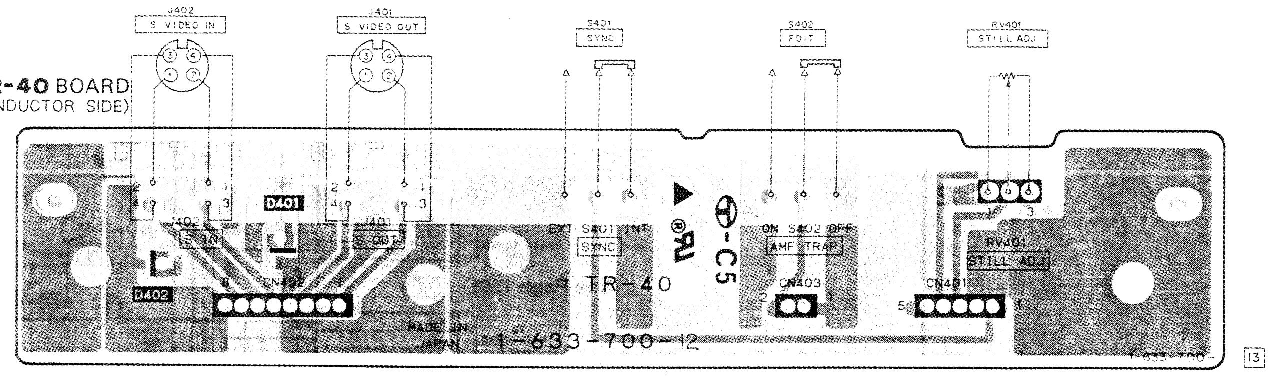
12
A
B
C
D
E
F
G
H
I
J
(See Page 147)
TO IF-39 BOARD (1/3)
REG 5V OUT
REG 9V OUT
GND
MUTE CONT
2P IN/3P IN CONT
SP/LP
PB LOGIC
(See Page 139)
TO MB-19P BOARD CN924
CN005 (BLK)
MODE
MONO STE IN
MONO STE OUT
PCM MUTE IN
AFM MUTE IN
AFM REC/PB IN
JOG AU MUTE
N.C.
(See Page 179)
TO FB-169P BOARD W007
CN006 (YEL)
POWER ON
MONO/ST
AGC
E.E CONT
OUT SWA
OUT SWB
(See Page 138)
TO MB-19P BOARD CN923
CN007 (BLK)
STD AU IN
GND (STD)
STD AU OUT
LCH OUT
GND (LCH)
LCH IN
RCH IN
GND (RCH)
RCH OUT
Q172 MUTE CONT
Q170,171 INVERTER
Q165-169 LINE MUTE CONT
Q174-176 MUTE CONT
IC165 TC4001BF MUTE CONT
Q177,178 INVERTER
Q179-181 MUTE CONT
Q181-184 MUTE CONT
Q186,188 INVERTER
IC003 NJM4558M AMP
Q001,003 MUTE
Q002 MODE CONT
Q004 MUTE SWITCH
Q005 JOG CONT
PCM SELE MUTE
STD SELE MUTE
IC051 NJM4558M +7V REG -7V REG
Q010 +7V REG
Q060 -7V REG
Q053,051 MUTE
Q052 MODE CONT
Q054 MUTE SWITCH
IC004 NJM4558M PCM L-CH AMP
IC054 NJM4558M PCM R-CH AMP
TC405 AUDIO L SELECT
TC405 AUDIO R SELE
Q191 2SA812
CN101 (WHT)
POWER ON
UNSW 5V
GND (UNSW)
REG 5V (DIG)
REG 5V
GND (5V)
REG -9V
GND (-9V)
GND (9V)
REG 9V
GND
DRIVE 9V
TO POWER BLOCK
M907
DC FAN
CN103 (WHT)
FAN(-)
N.C.
FAN(+)
CHASSIS GND
CN102 (WHT)
DRIVE 9V
GND (DRIVE)
DRIV 5V
REG -9V(ANA)
GND(ANA)
REG 9V(ANA)
GND(DIG)
REG 5V(DIG)
REG 5V(ANA)
REG 5V(DIG)
UNSW 5V
POWER ON
TO SE-10P BOARD CN907
(See Page 120)
CN104 (WHT)
REG -9V
GND
REG +9V
REG 5V
UNSW 5V
GND
GND
TO FB-169P BOARD W001
(See Page 177)
CN004 (RED)
NC
MUTE
R CH IN
GND
L CH IN
TO FB-169P BOARD W008
(See Page 177)
CN008
+Vcc 7V OUT
LINE MUTE
Rch OUT
GND
Lch OUT
-Vcc 7V OUT
NO USE

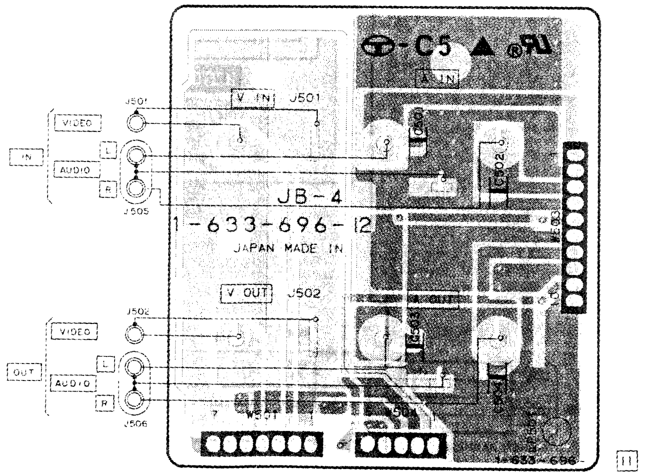
176	8-729-901-06	TRANSISTOR	DTA144EK
177	8-729-901-06	TRANSISTOR	DTA144EK
178	8-729-901-01	TRANSISTOR	DTC144EK
179	8-729-901-06	TRANSISTOR	DTA144EK
180	8-729-901-01	TRANSISTOR	DTC144EK
181	8-729-901-01	TRANSISTOR	DTC144EK
182	8-729-216-22	TRANSISTOR	2SA1162
183	8-729-901-01	TRANSISTOR	DTC144EK
184	8-729-901-01	TRANSISTOR	DTC144EK
186	8-729-901-06	TRANSISTOR	DTA144EK
188	8-729-901-06	TRANSISTOR	DTA144EK
191	8-729-216-22	TRANSISTOR	2SA1162
301	8-729-100-66	TRANSISTOR	2SC1623
302	8-729-100-66	TRANSISTOR	2SC1623
303	8-729-100-66	TRANSISTOR	2SC1623
304	8-729-100-66	TRANSISTOR	2SC1623
305	8-729-100-66	TRANSISTOR	2SC1623
306	8-729-100-66	TRANSISTOR	2SC1623
307	8-729-100-66	TRANSISTOR	2SC1623
308	8-729-100-66	TRANSISTOR	2SC1623
309	8-729-100-66	TRANSISTOR	2SC1623
Q310	8-729-100-66	TRANSISTOR	2SC1623
Q311	8-729-100-66	TRANSISTOR	2SC1623
Q312	8-729-100-66	TRANSISTOR	2SC1623
Q313	8-729-100-66	TRANSISTOR	2SC1623
Q314	8-729-100-66	TRANSISTOR	2SC1623
Q315	8-729-100-66	TRANSISTOR	2SC1623
Q316	8-729-100-66	TRANSISTOR	2SC1623
Q317	8-729-100-66	TRANSISTOR	2SC1623
Q318	8-729-100-66	TRANSISTOR	2SC1623
Q319	8-729-100-66	TRANSISTOR	2SC1623
Q320	8-729-100-66	TRANSISTOR	2SC1623
Q321	8-729-100-66	TRANSISTOR	2SC1623
Q401	8-729-100-66	TRANSISTOR	2SC1623
Q402	8-729-100-66	TRANSISTOR	2SC1623
Q403	8-729-100-66	TRANSISTOR	2SC1623
Q404	8-729-100-66	TRANSISTOR	2SC1623
Q405	8-729-100-66	TRANSISTOR	2SC1623
Q406	8-729-100-66	TRANSISTOR	2SC1623
Q407	8-729-100-66	TRANSISTOR	2SC1623
Q408	8-729-100-66	TRANSISTOR	2SC1623
Q409	8-729-100-66	TRANSISTOR	2SC1623
Q410	8-729-100-66	TRANSISTOR	2SC1623
Q411	8-729-100-66	TRANSISTOR	2SC1623
Q412	8-729-100-66	TRANSISTOR	2SC1623
Q413	8-729-100-66	TRANSISTOR	2SC1623
Q414	8-729-100-66	TRANSISTOR	2SC1623
Q501	8-729-100-66	TRANSISTOR	2SC1623
Q502	8-729-100-66	TRANSISTOR	2SC1623
Q503	8-729-901-06	TRANSISTOR	DTA144EK
Q504	8-729-100-66	TRANSISTOR	2SC1623
Q505	8-729-100-66	TRANSISTOR	2SC1623
Q506	8-729-100-66	TRANSISTOR	2SC1623
Q507	8-729-901-06	TRANSISTOR	DTA144EK
Q508	8-729-100-66	TRANSISTOR	2SC1623
Q509	8-729-100-66	TRANSISTOR	2SC1623
Q510	8-729-100-66	TRANSISTOR	2SC1623
Q511	8-729-100-66	TRANSISTOR	2SC1623
Q512	8-729-100-66	TRANSISTOR	2SC1623
Q513	8-729-100-66	TRANSISTOR	2SC1623
Q514	8-729-100-66	TRANSISTOR	2SC1623
Q515	8-729-100-66	TRANSISTOR	2SC1623
Q516	8-729-100-66	TRANSISTOR	2SC1623
Q517	8-729-901-06	TRANSISTOR	DTA144EK
Q518	8-729-100-66	TRANSISTOR	2SC1623
Q519	8-729-100-66	TRANSISTOR	2SC1623
Q520	8-729-901-06	TRANSISTOR	DTA144EK
Q521	8-729-901-06	TRANSISTOR	DTA144EK
Q601	8-729-100-66	TRANSISTOR	2SC1623
Q602	8-729-901-01	TRANSISTOR	DTC144EK
Q603	8-729-100-66	TRANSISTOR	2SC1623
Q604	8-729-100-66	TRANSISTOR	2SC1623
Q605	8-729-100-66	TRANSISTOR	2SC1623
Q606	8-729-100-66	TRANSISTOR	2SC1623
Q607	8-729-100-66	TRANSISTOR	2SC1623
Q608	8-729-100-66	TRANSISTOR	2SC1623
Q609	8-729-100-66	TRANSISTOR	2SC1623
Q610	8-729-100-66	TRANSISTOR	2SC1623
Q611	8-729-100-66	TRANSISTOR	2SC1623
Q612	8-729-901-06	TRANSISTOR	DTA144EK
Q613	8-729-901-01	TRANSISTOR	DTC144EK
Q614	8-729-901-01	TRANSISTOR	DTC144EK
Q615	8-729-901-06	TRANSISTOR	DTA144EK
Q616	8-729-901-06	TRANSISTOR	DTA144EK
Q701	8-729-100-66	TRANSISTOR	2SC1623
Q702	8-729-100-66	TRANSISTOR	2SC1623
Q703	8-729-202-38	TRANSISTOR	2SC3326N
Q704	8-729-100-66	TRANSISTOR	2SC1623
Q705	8-729-100-66	TRANSISTOR	2SC1623
Q706	8-729-100-66	TRANSISTOR	2SC1623
Q707	8-729-100-66	TRANSISTOR	2SC1623
Q708	8-729-100-66	TRANSISTOR	2SC1623
Q709	8-729-100-66	TRANSISTOR	2SC1623
Q710	8-729-100-66	TRANSISTOR	2SC1623
Q711	8-729-100-66	TRANSISTOR	2SC1623
Q712	8-729-100-66	TRANSISTOR	2SC1623
Q713	8-729-100-66	TRANSISTOR	2SC1623
Q714	8-729-100-66	TRANSISTOR	2SC1623
Q715	8-729-100-66	TRANSISTOR	2SC1623
Q716	8-729-100-66	TRANSISTOR	2SC1623
Q717	8-729-100-66	TRANSISTOR	2SC1623
Q718	8-729-100-66	TRANSISTOR	2SC1623
Q719	8-729-100-66	TRANSISTOR	2SC1623
Q720	8-729-100-66	TRANSISTOR	2SC1623
Q721	8-729-320-17	TRANSISTOR	2SA1122-CD
Q722	8-729-100-66	TRANSISTOR	2SC1623
Q901	8-729-901-01	TRANSISTOR	DTC144EK
Q902	8-729-901-01	TRANSISTOR	DTC144EK
Q903	8-729-901-01	TRANSISTOR	DTC144EK
Q904	8-729-901-01	TRANSISTOR	DTC144EK
Q905	8-729-901-05	TRANSISTOR	DTA124EK
Q906	8-729-100-66	TRANSISTOR	2SC1623
Q907	8-729-100-66	TRANSISTOR	2SC1623
Q908	8-729-100-66	TRANSISTOR	2SC1623
Q909	8-729-100-66	TRANSISTOR	2SC1623
Q910	8-729-100-66	TRANSISTOR	2SC1623
Q911	8-729-901-06	TRANSISTOR	DTA144EK



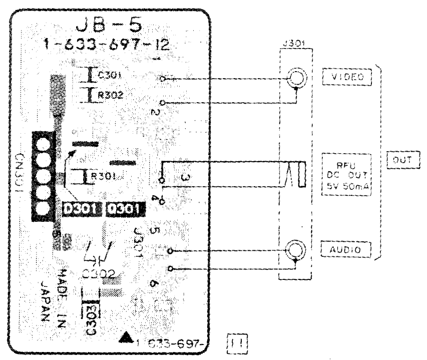
TR-40 BOARD
(CONDUCTOR SIDE)



JB-4 BOARD (CONDUCTOR SIDE)



JB-5 BOARD (CONDUCTOR SIDE)



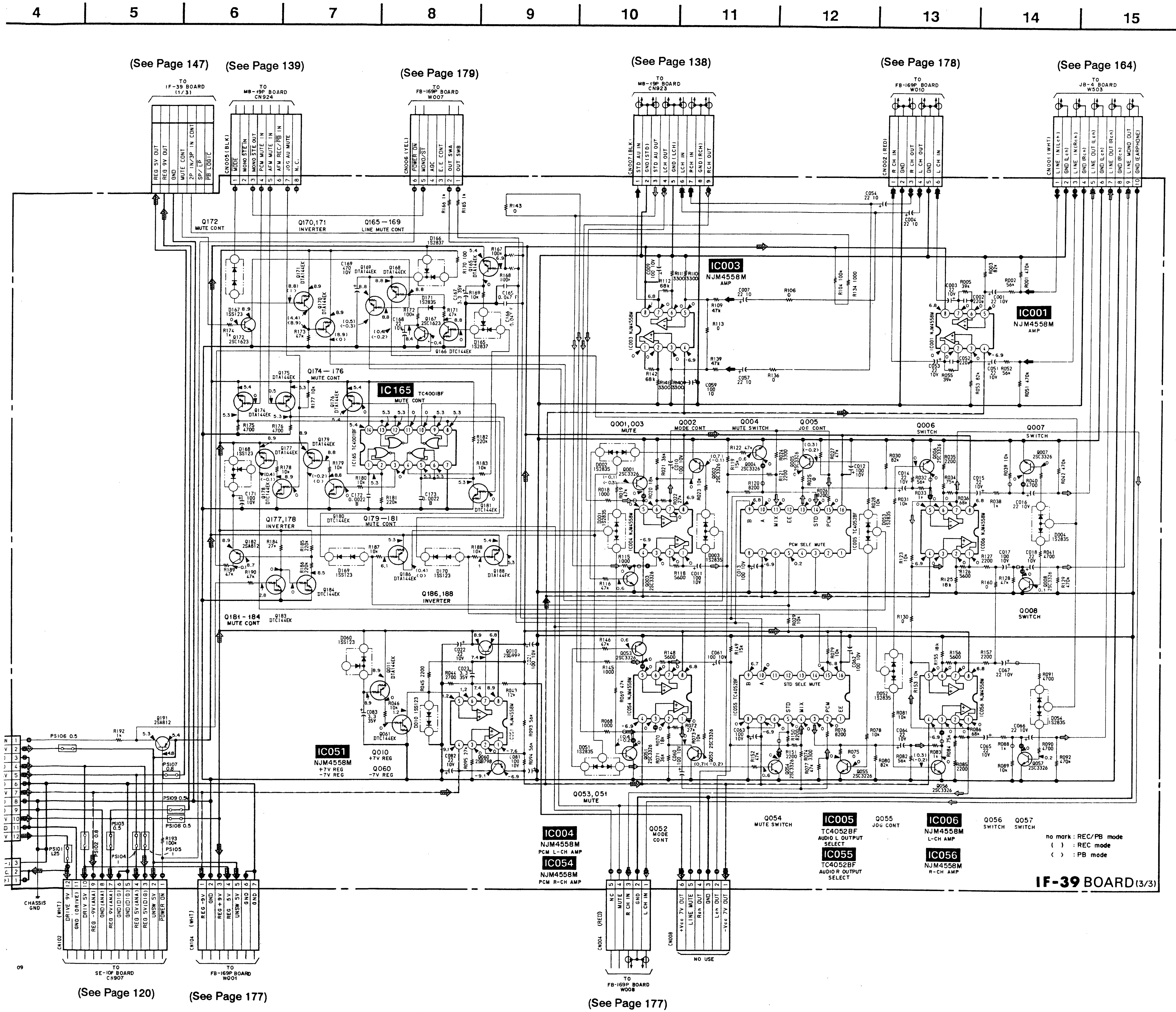
< DIODE >

8-719-800-76 DIODE 1SS226

< TRANSISTOR >

Q301 8-729-216-22 TRANSISTOR 2SA1162

' DISTRIBUTE) SCHEMATIC DIAGRAM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19
(See Page 147)
TO IF-39 BOARD (1/3)
(See Page 139)
TO MB-19P BOARD CN924
(See Page 179)
TO FB-169P BOARD W007
(See Page 138)
TO MB-19P BOARD CN923
(See Page 178)
TO FB-169P BOARD W010
(See Page 164)
TO JB-4 BOARD W503
Q172 MUTE CONT
Q170,171 INVERTER
Q165-169 LINE MUTE CONT
IC003
NJM4558M
AMP
IC001
NJM4558M
AMP
IC165
TC4001BF
MUTE CONT
Q174-176 MUTE CONT
Q177,178 INVERTER
Q179-181 MUTE CONT
Q186,188 INVERTER
Q181-184 MUTE CONT
Q001,003 MUTE
Q002 MODE CONT
Q004 MUTE SWITCH
Q005 JOG CONT
Q006 SWITCH
Q007 SWITCH
Q008 SWITCH
PCM SELE MUTE
STD SELE MUTE
IC051
NJM4558M
+7V REG
-7V REG
Q010 +7V REG
Q060 -7V REG
Q053,051 MUTE
IC004
NJM4558M
PCM L-CH AMP
IC054
NJM4558M
PCM R-CH AMP
Q052 MODE CONT
Q054 MUTE SWITCH
IC005
TC4052BF
AUDIO L OUTPUT SELECT
IC055
TC4052BF
AUDIO R OUTPUT SELECT
Q055 JOG CONT
IC006
NJM4558M
L-CH AMP
IC056
NJM4558M
R-CH AMP
Q056 SWITCH
Q057 SWITCH
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
IF-39 BOARD(3/3)
CHASSIS GND
TO SE-10P BOARD CN907
(See Page 120)
TO FB-169P BOARD W001
(See Page 177)
TO FB-169P BOARD W008
(See Page 177)
NO USE

- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC				➡
PB				⇨

FB-169P (FUNCTION CONTROL), MJ-25 (MIC IN), HE-2 (HEADPHONE OUT), TC-20P (CONTROL P IN/OUT) PRINTED WIRING BOARDS

— Ref. No. FB-169P BOARD: 7000 series, MJ-25 BOARD: 9000 series, HE-2 BOARD: 6000 series, TC-20P BOARD: 9000 series —

TC-20 BOARD
****

< DIODE >

D701	8-719-918-70	DIODE LB-202DB
D702	8-719-918-70	DIODE LB-202DB
D703	8-719-918-70	DIODE LB-202DB
D704	8-719-918-70	DIODE LB-202DB

< TRANSISTOR >

Q701	8-729-140-88	TRANSISTOR FP1A3M
Q702	8-729-140-88	TRANSISTOR FP1A3M
Q703	8-729-140-88	TRANSISTOR FP1A3M
Q704	8-729-140-88	TRANSISTOR FP1A3M
Q705	8-729-140-88	TRANSISTOR FP1A3M
Q706	8-729-140-88	TRANSISTO
Q707	8-729-140-88	TRANSISTO
Q708	8-729-140-88	TRANSISTO
Q709	8-729-900-53	TRANSISTO
Q710	8-729-900-53	TRANSISTO

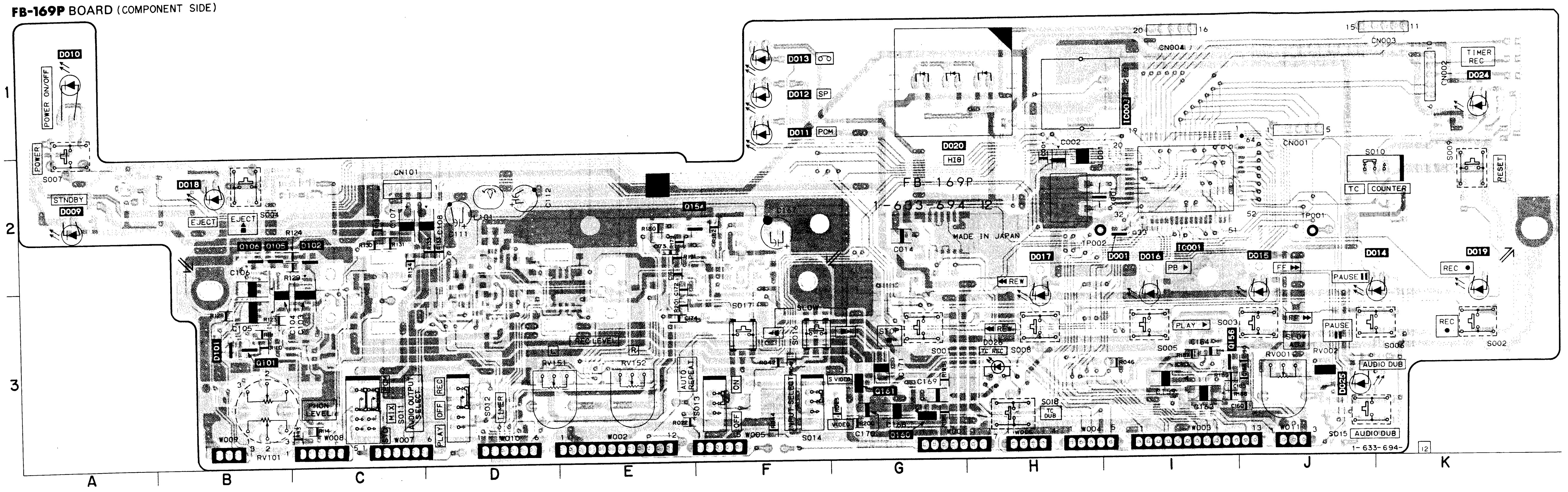
FB-169 BOARD (COMPONENT SIDE)

D001	I-2
D008	G-3
D009	A-2
D010	A-1
D011	F-1
D012	F-1
D013	F-1
D014	K-2
D015	J-3
D016	I-2
D017	H-2
D018	B-2
D019	K-2
D020	G-2
D024	K-1
D025	J-3
D026	H-3
D101	B-3
D102	C-2
D151	D-3
D153	D-3
D154	D-2
IC001	I-2
IC003	I-1
Q101	B-3
Q105	B-2
Q106	B-2
Q151	D-3
Q154	F-2
Q156	I-3
Q160	G-3
Q161	G-3

FB-169 BOARD (CONDUCTOR SIDE)

D002	G-2
D003	C-2
D004	A-2
D005	D-3
D006	D-3
D007	F-3
D021	J-2
D023	J-3
D152	D-2
D155	E-2
D156	F-2
D157	F-2
D158	E-3
IC002	I-2
IC004	G-2
IC101	B-3
IC102	B-2
IC152	E-2
IC153	E-2
IC154	I-3
Q012	A-2
Q013	H-1
Q015	K-1
Q016	K-3
Q017	K-3
Q018	K-3
Q019	K-3
Q103	C-3
Q104	C-3
Q152	D-3
Q153	F-3
Q155	F-2
Q157	F-2
Q158	F-2
Q159	F-3
Q162	F-3

FB-169P BOARD (COMPONENT SIDE)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A
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C
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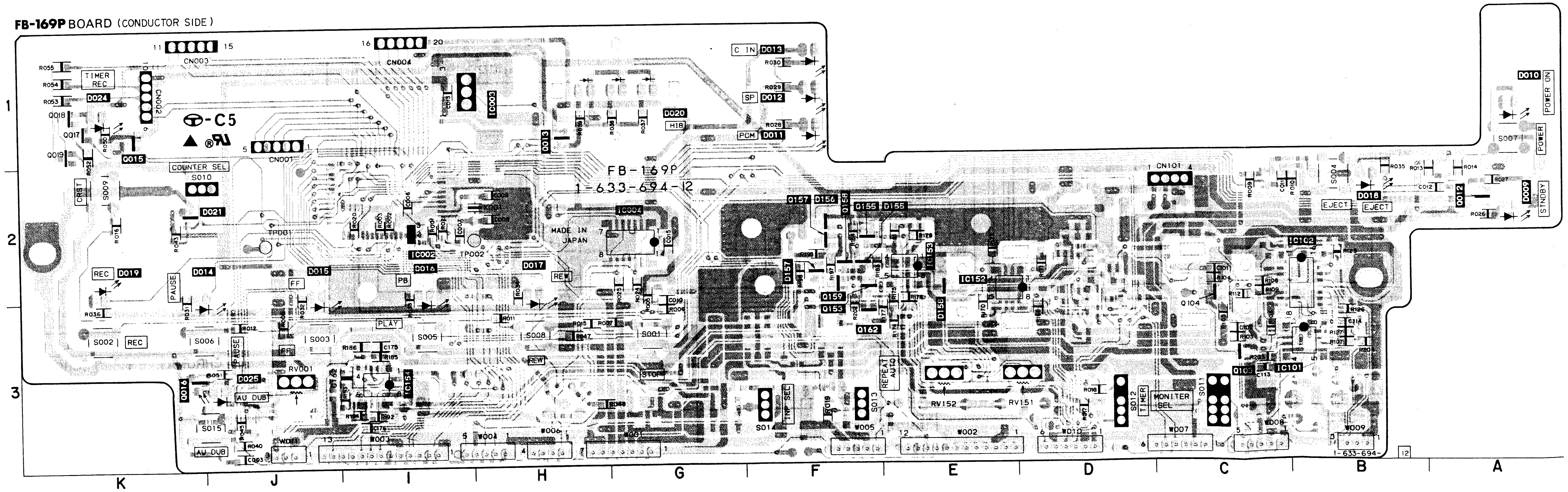
F
G
H
I
J
K
FB-169P
1-633-694-12
MADE IN JAPAN
POWER ON/OFF
POWER
STNDBY
EJECT
CN101
CN004
CN003
CN002
CN001
TIMER REC
TC COUNTER
RESET
REW
PB
FF
PAUSE
REC
PLAY
STOP
AUDIO DUB
REC LEVEL
AUTO REPEAT
AUDIO OUTPUT SELECT
MIX
PHON LEVEL
TIMER
TC REC
TC DUB
SP
PCM
HI8
RV101
RV151
RV152
RV001
RV002
W001
W002
W003
W004
W005
W006
W007
W008
W009
W010
TP001
TP002
1-633-694-

FB-169P BOARD (CONDUCTOR SIDE)


1
2
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K
J
I
H
G
F
E
D
C
B
A
FB-169P
1-633-694-12
MADE IN JAPAN
C IN
TIMER REC
CN003
CN004
CN002
CN001
CN101
COUNTER SEL
S010
REC
PAUSE
FF
PB
REW
PLAY
STOP
EJECT
POWER ON
POWER
STNDBY
AU DUB
REPEAT AUTO
MONITER SEL
TIMER
INP SEL
RV001
RV151
RV152
W001
W002
W003
W004
W005
W006
W007
W008
W009
W010
TP001
TP002
1-633-694-

TC-20 BOARD
****

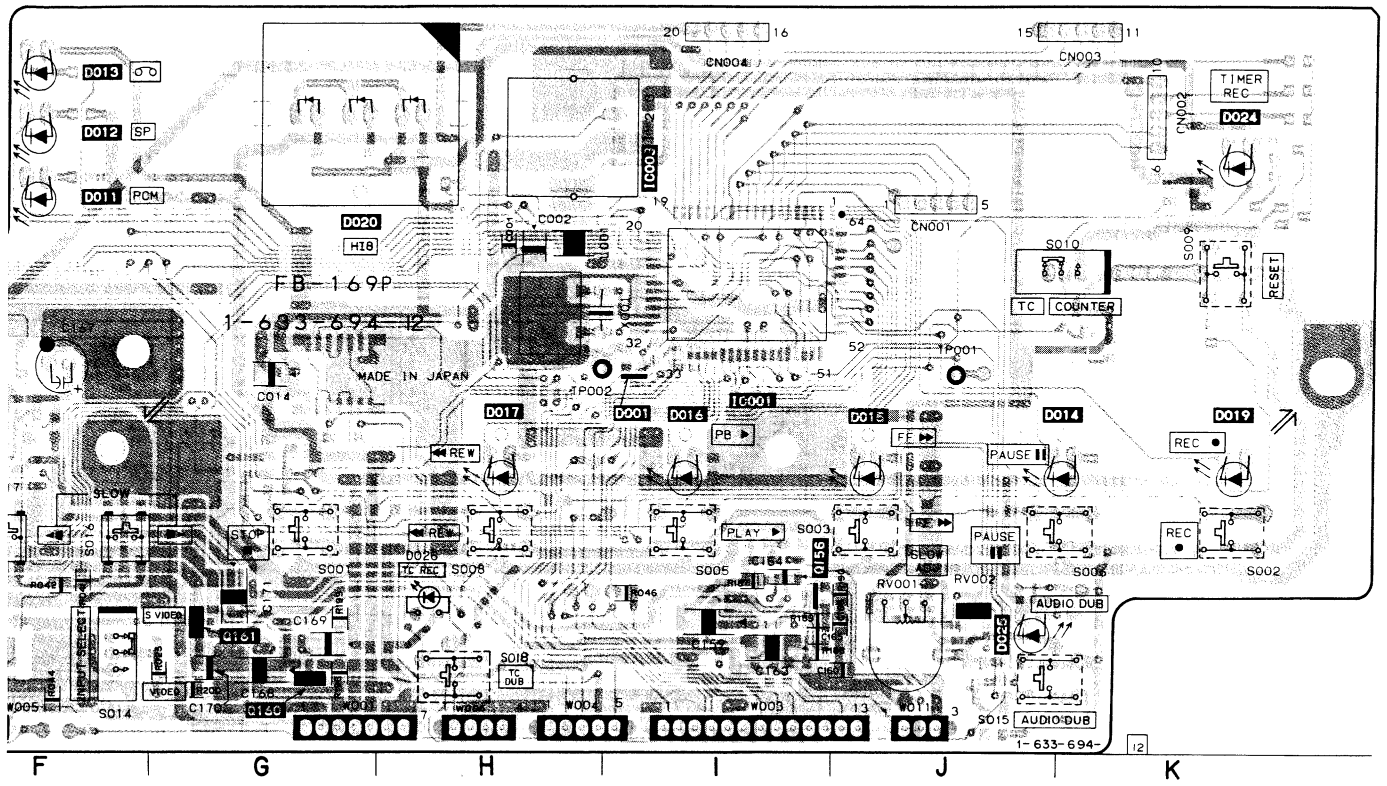
< DIODE >

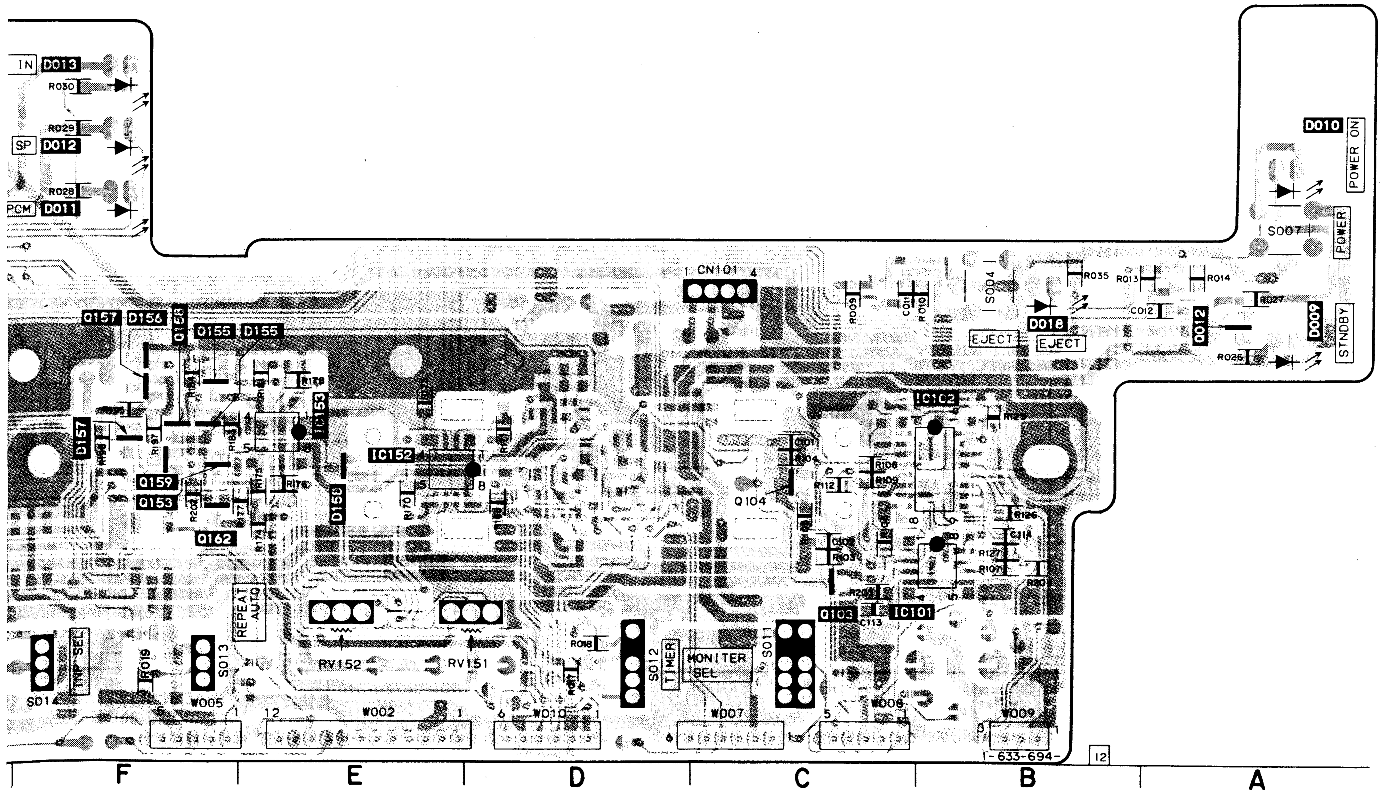
D701	8-719-918-70	DIODE LB-202DB
D702	8-719-918-70	DIODE LB-202DB
D703	8-719-918-70	DIODE LB-202DB
D704	8-719-918-70	DIODE LB-202DB

< TRANSISTOR >

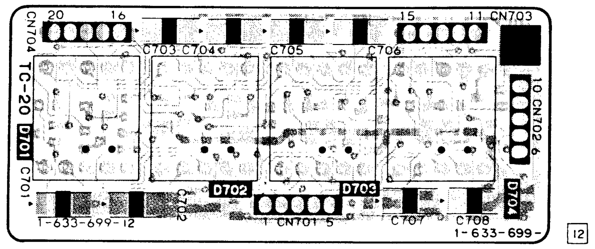
Q701	8-729-140-88	TRANSISTOR FP1A3M
Q702	8-729-140-88	TRANSISTOR FP1A3M
Q703	8-729-140-88	TRANSISTOR FP1A3M
Q704	8-729-140-88	TRANSISTOR FP1A3M
Q705	8-729-140-88	TRANSISTOR FP1A3M
Q706	8-729-140-88	TRANSISTOR FP1A3M
Q707	8-729-140-88	TRANSISTOR FP1A3M
Q708	8-729-140-88	TRANSISTOR FP1A3M
Q709	8-729-900-53	TRANSISTOR DTC114EK
Q710	8-729-900-53	TRANSISTOR DTC114EK
Q711	8-729-900-53	TRANSISTOR DTC114EK
Q712	8-729-900-53	TRANSISTOR DTC114EK
Q713	8-729-900-53	TRANSISTOR DTC114EK
Q714	8-729-900-53	TRANSISTOR DTC114EK
Q715	8-729-900-53	TRANSISTOR DTC114EK

) WIRING BOARDS

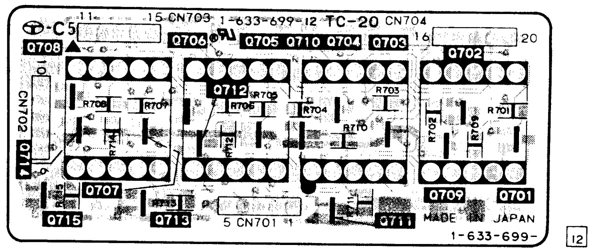

FB-169P
1-633-694-12
MADE IN JAPAN
D013
D012 SP
D011 PCM
D020 HI8
CN004
CN003
CN001
IC001
TIMER REC
D024
S010
TC COUNTER
RESET
D017
D001
D016
PB
D015
FF
D014
D019
REW
PAUSE
REC
STOP
PLAY
S001
S002
S003
S005
S006
S008
S014
S015
S018
TC REC
TC DUB
AUDIO DUB
RV001
RV002
SLOW
S VIDEO
VIDEO
INPUT SELECT
W001
W003
W004
W005
W006
1-633-694-
12
F
G
H
I
J
K


IN D013
R030
R029
SP D012
R028
PCM D011
D010
POWER ON
S007
POWER
CN101
S004
D018
EJECT
Q012
D009
STANDBY
D157
D156
D155
D158
Q159
Q153
Q162
IC152
IC153
IC154
Q104
IC101
IC102
Q103
TNP SEL
REPEAT AUTO
RV152
RV151
S012
TIMER
MONITER SEL
S011
S013
W002
W005
W007
W008
W009
1-633-694-
12
F
E
D
C
B
A

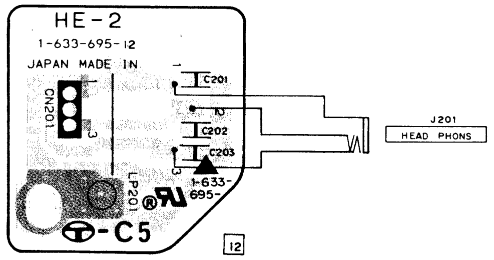
TC-20 BOARD (COMPONENT SIDE)


CN704
TC-20
CN703
CN702
D701
D702
D703
D704
C701
C703
C704
C705
C706
C707
C708
CN701
1-633-699-12
1-633-699-
12

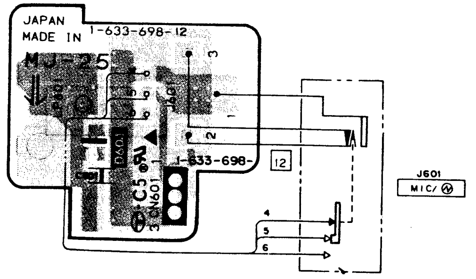
TC-20 BOARD (CONDUCTOR SIDE)


C5
CN703
1-633-699-12
TC-20
CN704
Q708
Q706
Q705
Q710
Q704
Q703
Q702
Q712
Q714
CN702
Q707
Q709
Q701
Q715
Q713
Q711
CN701
MADE IN JAPAN
1-633-699-
12

HE-2 BOARD (CONDUCTOR SIDE)


HE-2
1-633-695-12
JAPAN MADE IN
CN201
C201
C202
C203
LP201
1-633-695-
C5
J201
HEAD PHONS
12

MJ-25 BOARD (CONDUCTOR SIDE)


JAPAN
MADE IN
1-633-698-12
MJ-25
1-633-698-
C5
CN601
12
J601
MIC

FB-169 (P) BOARD, COMPLETE
****

< DIODE >

D001	8-719-800-76	DIODE 1SS226
D009	8-719-945-82	DIODE GL5HS42 (STANDBY)
D010	8-719-920-05	DIODE SLP281C-50 (POWER)
D011	8-719-907-92	DIODE GL-5EG521-B (PCM)
D012	8-719-941-46	DIODE GL-5HY41 (SP)
D013	8-719-941-46	DIODE GL-5HY41
D014	8-719-918-96	DIODE AA3422S
D015	8-719-812-32	DIODE TLY123
D016	8-719-920-05	DIODE SLP281C-50
D017	8-719-812-32	DIODE TLY123
D018	8-719-939-36	DIODE GL-5HY42
D019	8-719-812-31	DIODE TLR123
D020	8-719-913-59	DIODE LT-9230D (HI 8)
D024	8-719-906-58	DIODE GL-5HD42 (TIMER REC)
D025	8-719-812-31	DIODE TLR123 (AUDIO DUB)
D026	8-719-812-31	DIODE TLR123 (TC DUB)
D101	8-719-104-34	DIODE 1S2836
D102	8-719-104-34	DIODE 1S2836
D103	1-520-503-11	METER UNIT, LED LEVEL
D155	8-719-104-34	DIODE 1S2836
D156	8-719-104-34	DIODE 1S2836
D157	8-719-400-18	DIODE MA152WK
D158	8-719-104-34	DIODE 1S2836

< IC >

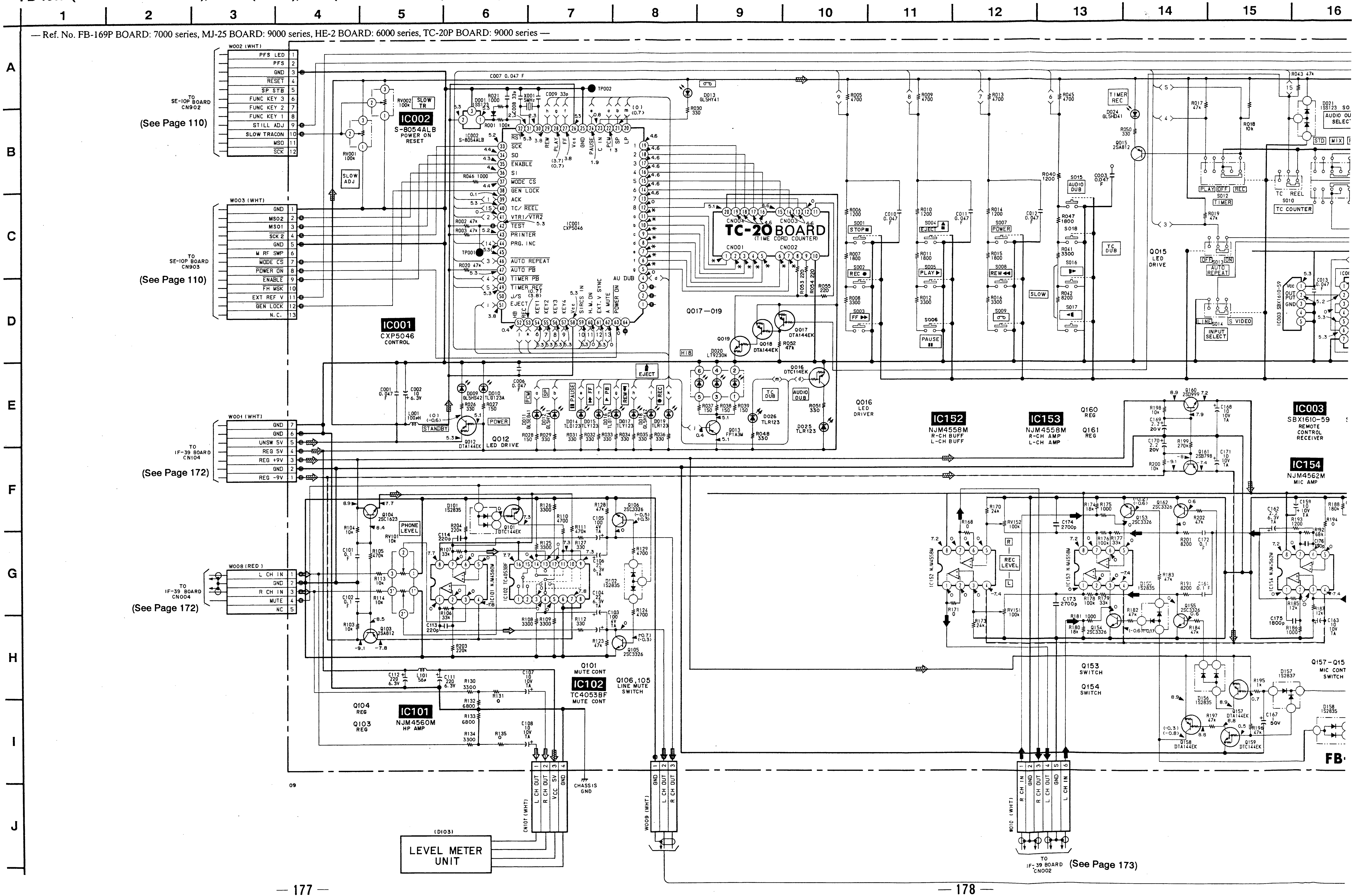
IC001	8-752-818-14	IC CXP5046H-255Q
IC002	8-759-937-56	IC S-8054ALB-LM-S
IC003	8-741-100-48	IC SBX1610-59
IC004	8-759-927-46	IC SN74HC00NS
IC101	8-759-981-XX	IC RC4560M
IC102	8-759-208-11	IC MC14053BF
IC152	8-759-981-92	IC RC4558M
IC153	8-759-981-92	IC RC4558M
IC154	8-759-700-62	IC NJM4562D

< TRANSISTOR >

Q012	8-729-901-06	TRANSISTOR	DTA144EK
Q013	8-729-140-88	TRANSISTOR	FP1A3M
Q015	8-729-216-22	TRANSISTOR	2SA1162
Q016	8-729-900-53	TRANSISTOR	DTC114EK
Q017	8-729-901-06	TRANSISTOR	DTA144EK
Q018	8-729-901-06	TRANSISTOR	DTA144EK
Q019	8-729-901-01	TRANSISTOR	DTC144EK
Q101	8-729-901-01	TRANSISTOR	DTC144EK
Q103	8-729-216-22	TRANSISTOR	2SA1162
Q104	8-729-100-66	TRANSISTOR	2SC1623
Q105	8-729-202-38	TRANSISTOR	2SC3326N
Q106	8-729-202-38	TRANSISTOR	2SC3326N
Q153	8-729-202-38	TRANSISTOR	2SC3326N
Q154	8-729-202-38	TRANSISTOR	2SC3326N
Q155	8-729-202-38	TRANSISTOR	2SC3326N
Q156	8-729-100-66	TRANSISTOR	2SC1623
Q157	8-729-901-06	TRANSISTOR	DTA144EK
Q158	8-729-901-06	TRANSISTOR	DTA144EK
Q159	8-729-901-01	TRANSISTOR	DTC144EK
Q160	8-729-140-75	TRANSISTOR	2SD999-CLCK
Q161	8-729-101-07	TRANSISTOR	2SB798-DLDK
Q162	8-729-202-38	TRANSISTOR	2SC3326N

FB-169P (FUNCTION CONTROL), MJ-25 (MIC IN), HE-2 (HEADPHONE OUT), TC-20P (CONTROL P IN/OUT) SCHEMATIC DIAGRAMS

— Ref. No. FB-169P BOARD: 7000 series, MJ-25 BOARD: 9000 series, HE-2 BOARD: 6000 series, TC-20P BOARD: 9000 series —



1
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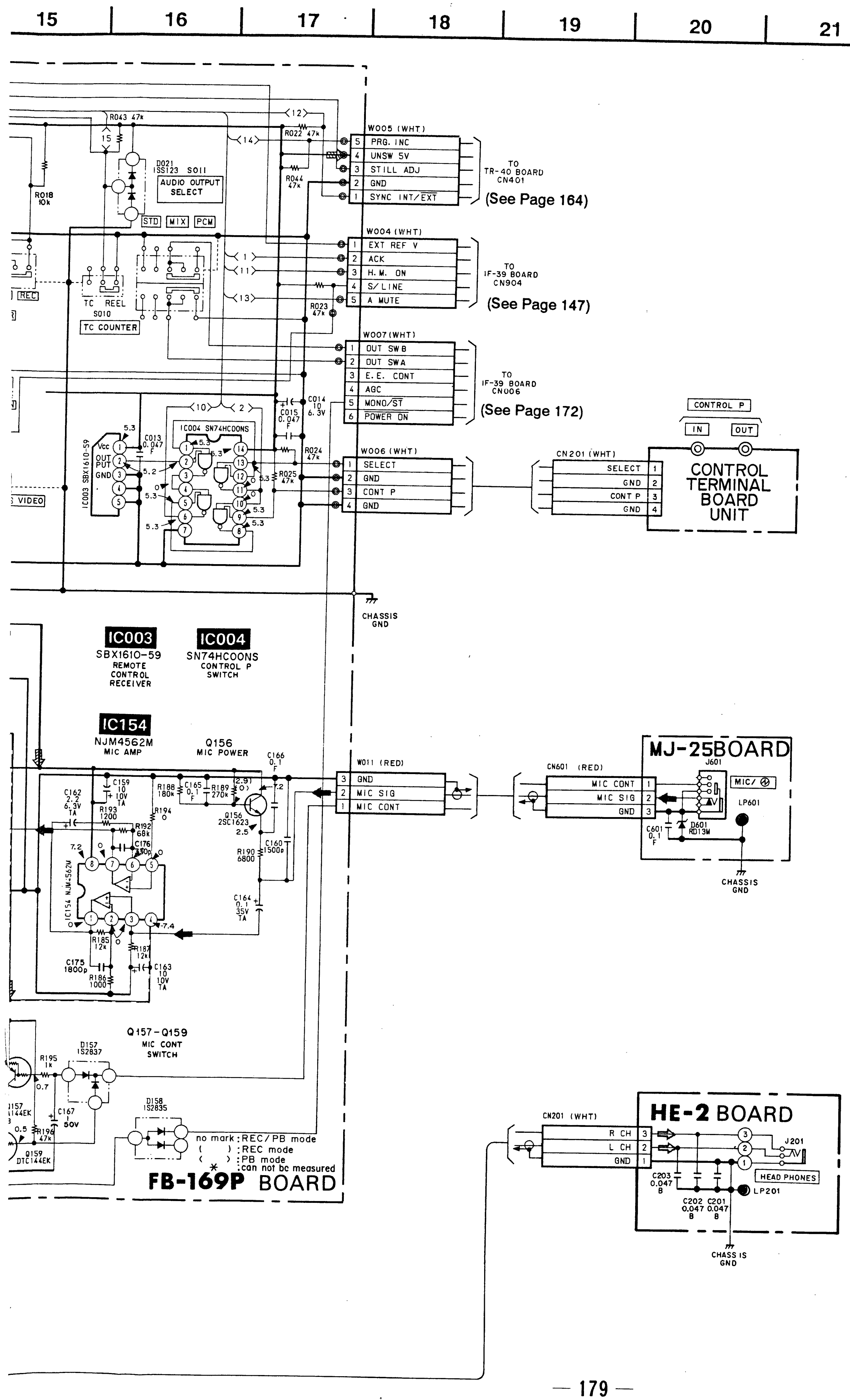
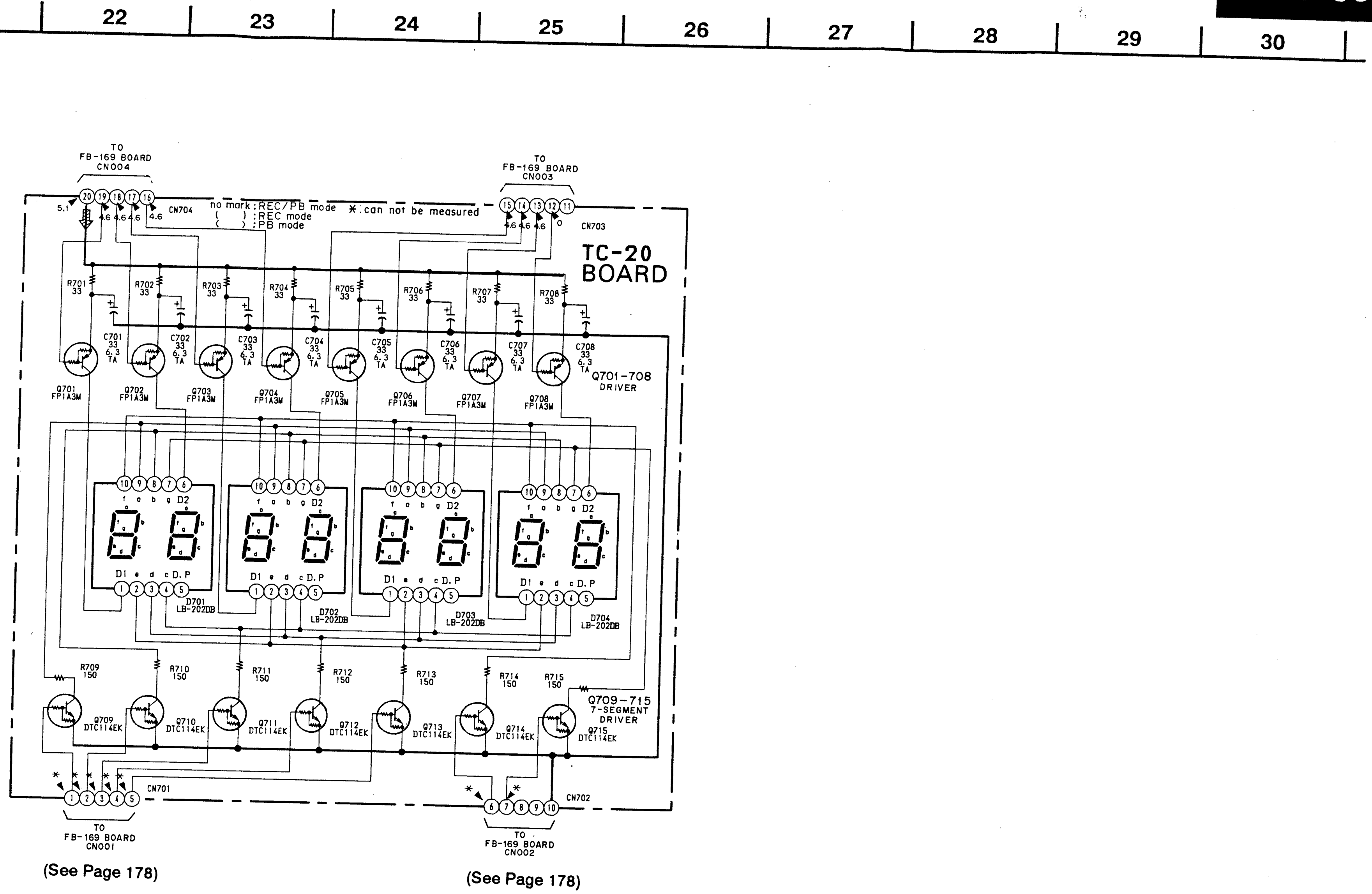
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
W002 (WHT)
PFS LED
PFS
GND
RESET
SP STB
FUNC KEY 3
FUNC KEY 2
FUNC KEY 1
STILL ADJ
SLOW TRACON
MSO
SCK
TO SE-10P BOARD CN902
(See Page 110)
W003 (WHT)
GND
MSO2
MSO1
SCK 2
GND
M RF SWP
MODE CS
POWER ON
ENABLE
FH MSK
EXT REF V
GEN LOCK
N.C.
TO SE-10P BOARD CN903
(See Page 110)
W001 (WHT)
GND
GND
UNSW 5V
REG 5V
REG +9V
GND
REG -9V
TO IF-39 BOARD CN104
(See Page 172)
W008 (RED)
L CH IN
GND
R CH IN
MUTE
NC
TO IF-39 BOARD CN004
(See Page 172)
IC002
S-8054ALB
POWER ON RESET
RV002 SLOW TR
RV001 100k
SLOW ADJ
IC001
CXP5046
CONTROL
TP002
TP001
RST
SCK
SO
ENABLE
SI
MODE CS
GEN LOCK
ACK
TC/REEL
VTR1/VTR2
TEST
PRINTER
PRG. INC
AUTO REPEAT
AUTO PB
TIMER PB
TIMER REC
J/S
EJECT
REW
PLAY
FF
Vcc
GND
PAUSE
C IN
PCM
SP
LP
SIRCS IN
H. MON
EXT. V SYNC
A MUTE
POWER ON
AU DUB
KEY1
KEY2
KEY3
KEY4
TC-20 BOARD
(TIME CORD COUNTER)
CN001
CN002
CN003
CN004
Q017—019
Q017 DTA144EK
Q018 DTA144EK
Q019
D020 LT9230N
D013 GL5HY41
S001 STOP■
S002 REC ●
S003 FF ▶▶
S004 EJECT
S005 PLAY ▶
S006 PAUSE ❚❚
S007 POWER
S008 REW ◀◀
S009
S015 AUDIO DUB
S016
S017
S018
SLOW
TC DUB
TIMER REC
D024 GL5HD41
Q015 2SA812
Q015 LED DRIVE
PLAY OFF REC
S012 TIMER
TC REEL
S010
TC COUNTER
OFF S013 ON
AUTO REPEAT
LINE S014 S VIDEO
INPUT SELECT
IC003 SBX1610-59
REMOTE CONTROL RECEIVER
AUDIO OUT SELECT
STD MIX
STANDBY
POWER
Q012 DTA144EK
Q012 LED DRIVE
EJECT
PCM
SP
PAUSE
FF
PB
REW
REC
Q016 DTC144EK
Q016 LED DRIVER
Q013 FP1A3M
D025 TLR123
D026 TLR123
TC DUB
AUDIO DUB
IC152
NJM4558M
R-CH BUFF
L-CH BUFF
IC153
NJM4558M
R-CH AMP
L-CH AMP
Q160 REG
Q161 REG
IC154
NJM4562M
MIC AMP
REC LEVEL
Q153 SWITCH
Q154 SWITCH
Q157-Q15
MIC CONT SWITCH
Q104 2SC1623
Q103 2SA812
PHONE LEVEL
RV101 10k
D101 1S2835
Q101 DTC144EK
IC101
NJM4560M
HP AMP
IC102
TC4053BF
MUTE CONT
Q101 MUTE CONT
Q106,105 LINE MUTE SWITCH
Q106 2SC3326
Q105 2SC3326
Q104 REG
Q103 REG
CN101 (WHT)
L CH OUT
R CH OUT
VCC 5V
GND
CHASSIS GND
(D103)
LEVEL METER UNIT
W009 (WHT)
GND
L CH OUT
R CH OUT
W010 (WHT)
R CH IN
GND
R CH OUT
L CH OUT
GND
L CH IN
TO IF-39 BOARD CN002
(See Page 173)
FB·


15
16
17
18
19
20
21
W005 (WHT)
PRG. INC
UNSW 5V
STILL ADJ
GND
SYNC INT/EXT
TO TR-40 BOARD CN401
(See Page 164)
W004 (WHT)
EXT REF V
ACK
H. M. ON
S/LINE
A MUTE
TO IF-39 BOARD CN904
(See Page 147)
W007 (WHT)
OUT SWB
OUT SWA
E. E. CONT
AGC
MONO/ST
POWER ON
TO IF-39 BOARD CN006
(See Page 172)
W006 (WHT)
SELECT
GND
CONT P
GND
CN201 (WHT)
CONTROL P
IN
OUT
CONTROL TERMINAL BOARD UNIT
D021 1SS123 S011
AUDIO OUTPUT SELECT
STD
MIX
PCM
TC REEL S010
TC COUNTER
REC
VIDEO
IC003 SBX1610-59
IC004 SN74HC00NS
CHASSIS GND
IC003
SBX1610-59
REMOTE CONTROL RECEIVER
IC004
SN74HC00NS
CONTROL P SWITCH
IC154
NJM4562M
MIC AMP
Q156
MIC POWER
W011 (RED)
GND
MIC SIG
MIC CONT
CN601 (RED)
MIC CONT
MIC SIG
GND
MJ-25BOARD
J601
MIC/⊕
LP601
D601 RD13M
CHASSIS GND
Q157-Q159
MIC CONT SWITCH
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
* : can not be measured
FB-169P BOARD
CN201 (WHT)
R CH
L CH
GND
HE-2 BOARD
J201
HEAD PHONES
LP201
CHASSIS GND

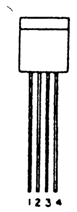

22
23
24
25
26
27
28
29
30
TO FB-169 BOARD CN004
CN704
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
* : can not be measured
TO FB-169 BOARD CN003
CN703
TC-20 BOARD
Q701-708 DRIVER
D701 LB-202DB
D702 LB-202DB
D703 LB-202DB
D704 LB-202DB
Q709-715 7-SEGMENT DRIVER
CN701
CN702
TO FB-169 BOARD CN001
(See Page 178)
TO FB-169 BOARD CN002
(See Page 178)

- **SIGNAL PATH**

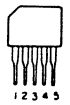
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA/DATA	
REC				➡
PB				⇨

4-3. SEMICONDUCTORS

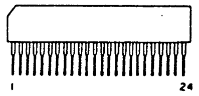
AN607P
AN608P



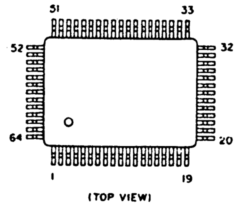
BA401
TA7060AP



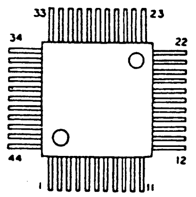
BA7036LS



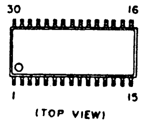
CF77305FT
CXP5024H
CXP5048H-204Q
CXP5048H-205Q
CXP5048H-210Q
μPD75106G-573-1B
μPD75106G-589-1B


51
33
52
32
64
20
1
19
(TOP VIEW)

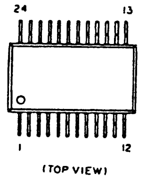
CF77309FR


33
23
34
22
44
12
1
11

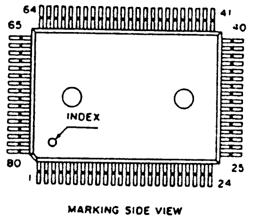
CXA1047M
LB1616M


30
16
1
15
(TOP VIEW)

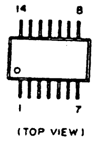
CXA1109M
TA8607F


24
13
1
12
(TOP VIEW)

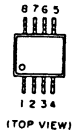
CXP80116-638Q


64
41
65
40
INDEX
80
25
1
24
MARKING SIDE VIEW

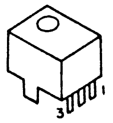
MC14069UBF
MC1496MR
RC3403AM


14
8
1
7
(TOP VIEW)

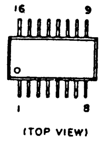
NJM2234M
NJM2238M
NJM2246M
RC3414M


8 7 6 5
1 2 3 4
(TOP VIEW)

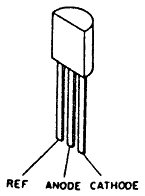
SBX1595-01



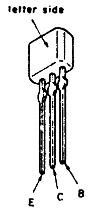
TA7745F


16
9
1
8
(TOP VIEW)

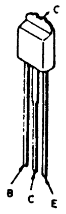
TL431CLP


REF
ANODE
CATHODE

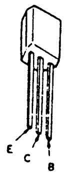
2SA1175-HFE


letter side
E
C
B

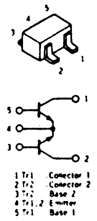
2SA1385-ZL
2SC3518



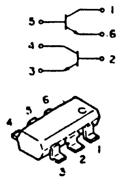
2SC3327-B
DTA144ES



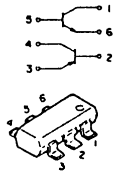
FMG2


5
4
3
1
2
5
4
3
1
2
1 Tr1 Collector 1
2 Tr2 Collector 2
3 Tr2 Base 2
4 Tr1, 2 Emitter
5 Tr1 Base 1

IMX1


5
1
6
4
2
3
6
5
4
1
2
3

IMZ1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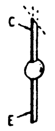
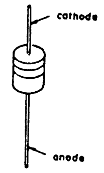
5
4
1
2
3

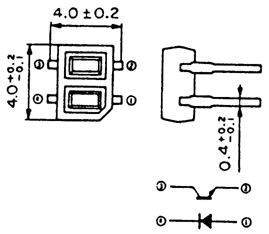
NJL7141E



1SS119
RD5.1ESB2
RD5.1ESB3


cathode
anode

GP2S09-B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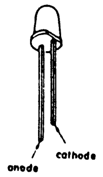
4.0±0.2
0.4±0.2
③
④
②
①

AA3422S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anode

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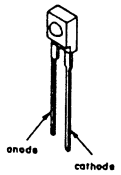
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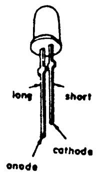
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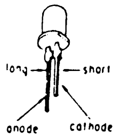
anode

GL-5HD21
GL-5HY41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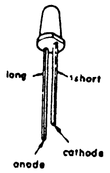
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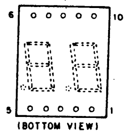
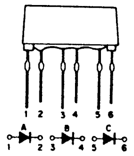
cathode

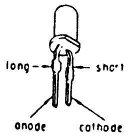
LB-202DB


6
10
5
1
(BOTTOM VIEW)

LT-9230D

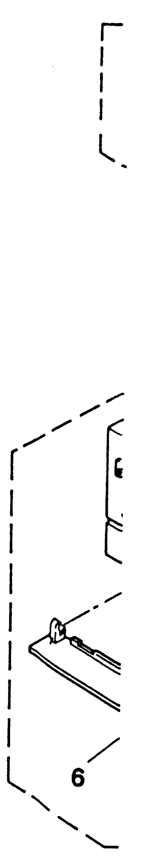

1 2 3 4 5 6
A B C
1 2 3 4 5 6

SLP281C-50
TLR123
TLY123


long
short
anode
cathode

NOTE:
- -XX, -X r
they may
the origin
- The co
assemble
collation
column.

5-1. FR



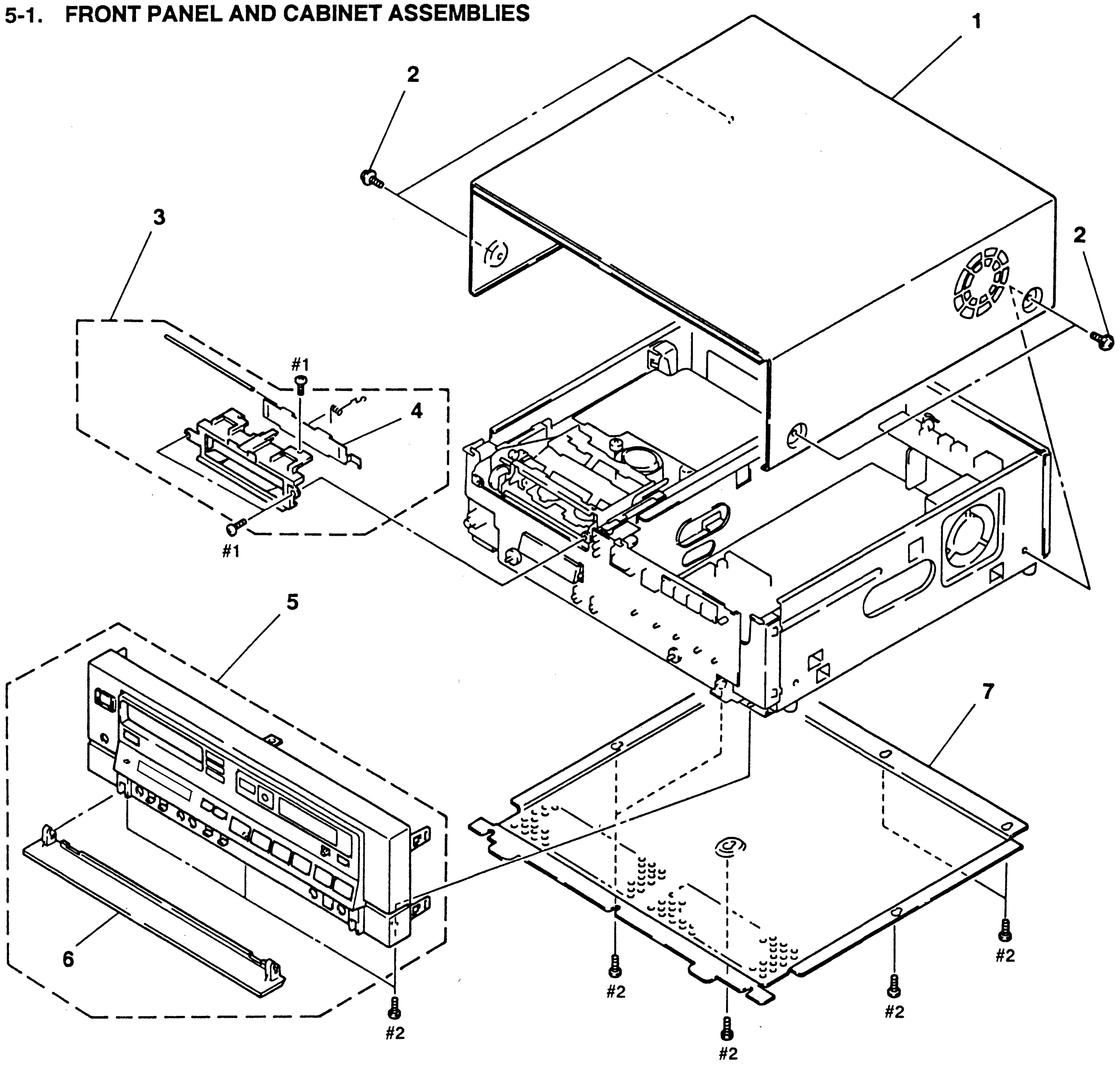
Ref. No.
1 *
2
3 *
4 *

SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

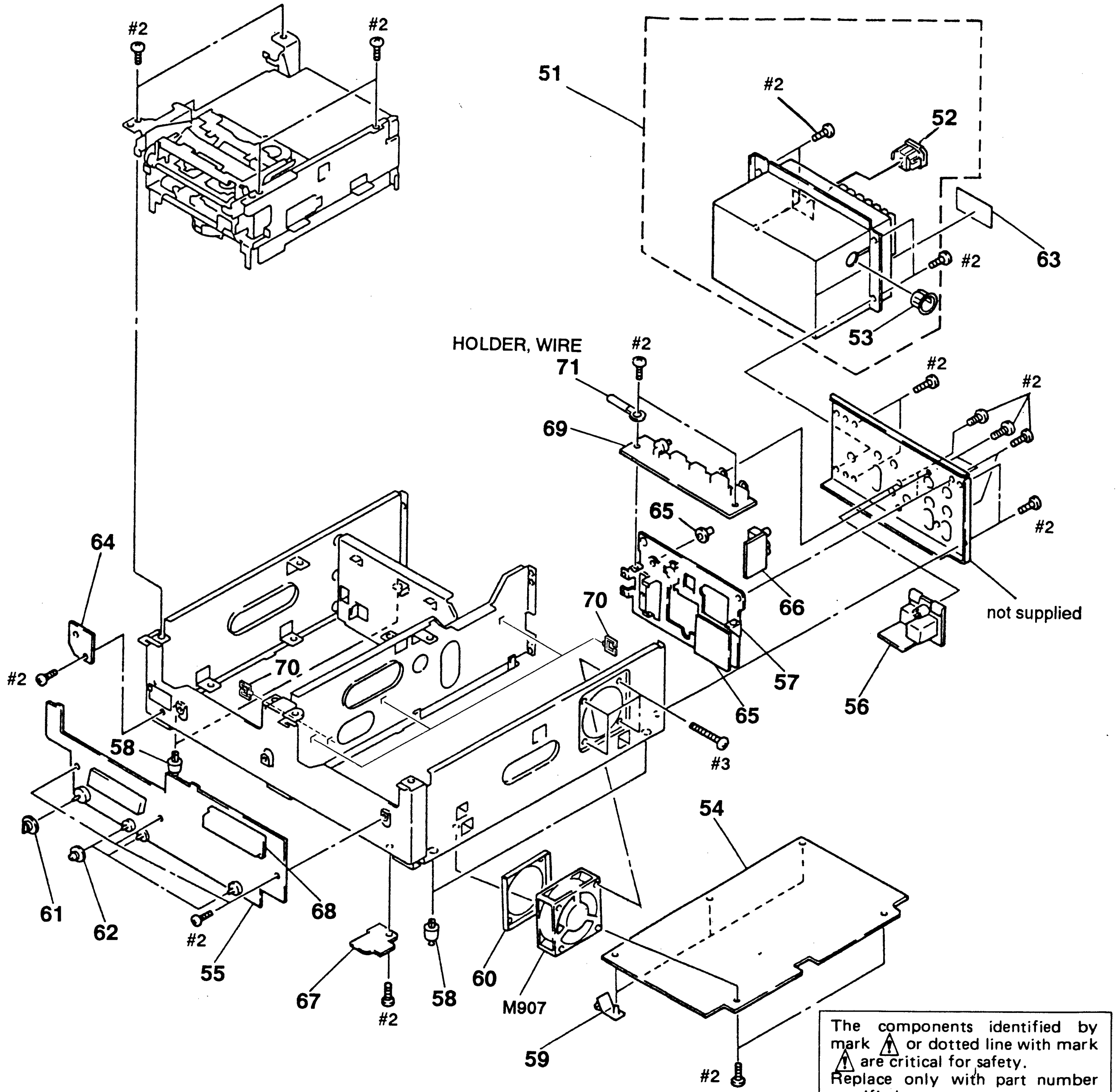
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. FRONT PANEL AND CABINET ASSEMBLIES



Ref. No.		Part No.	Description	Remark
1	∗	3-724-167-01	CASE, UPPER	
2		4-886-821-11	SCREW, M3 CASE	
3	∗	X-3738-905-1	WINDOW ASSY	
4	∗	3-721-101-71	DOOR	
5		X-3940-403-1	PANEL ASSY, FRONT	
6		X-3940-402-1	DOOR ASSY	
7	∗	3-724-168-01	PLATE, BOTTOM	

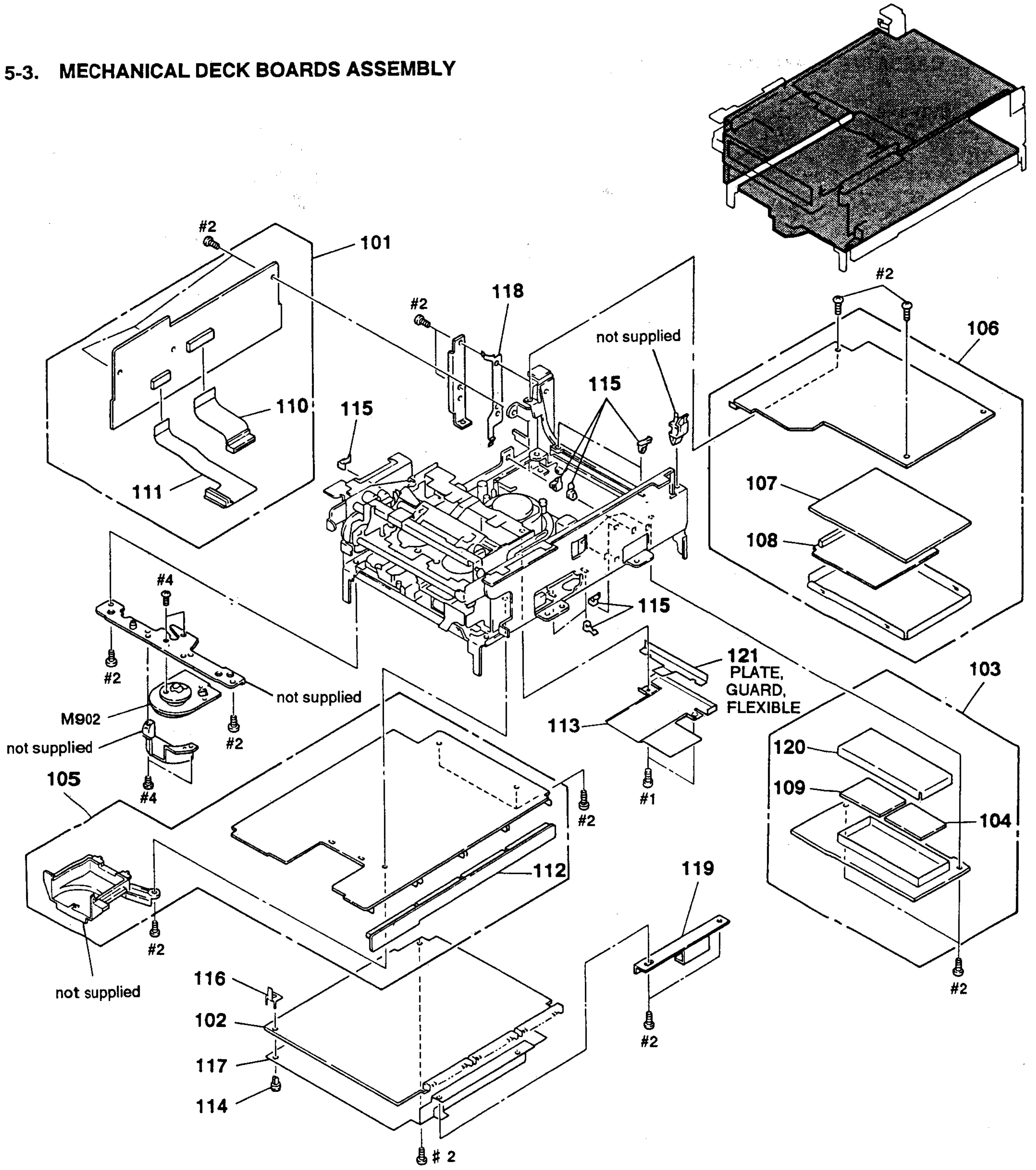
5-2. PC BOARDS AND POWER SUPPLY ASSEMBLIES



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

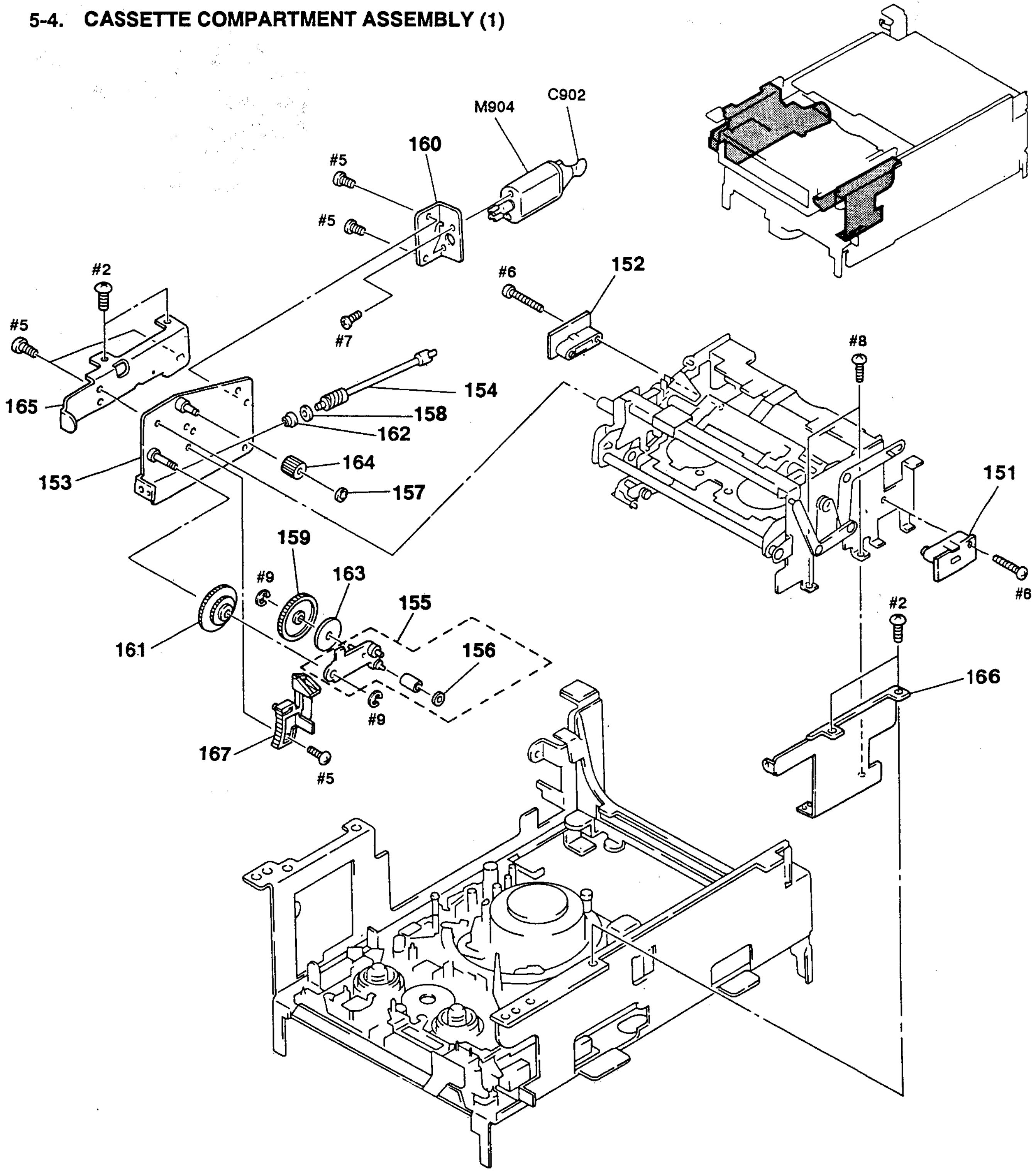
Ref. No.		Part No.	Description	Remark
51	⚠	1-413-629-11	POWER BLOCK	
52	⚠	- - -	INLET, AC	
53		- - -	BUSHING	
54	∗	A-7062-630-A	IF-39 BOARD, COMPLETE	
55	∗	A-7062-654-A	FB-169 (P) BOARD, COMPLETE	
56	∗	1-536-977-11	TERMINAL BOARD UNIT, CONTROL (CONTROL P IN/OUT)	
57		1-537-137-41	TERMINAL BOARD	
58		3-694-479-01	FOOT	
59	∗	3-696-448-01	HINGE, SS	
60	∗	3-697-996-01	BRACKET, FAN	
61		3-724-112-01	KNOB, PHONE	
62		3-724-113-01	KNOB, ADJUST	
63	∗	3-941-657-01	LABEL, MODEL NUMBER	
64	∗	1-633-695-11	HE-2 BOARD	
65	∗	1-633-696-11	JB-4 BOARD	
66	∗	1-633-697-11	JB-5 BOARD	
67	∗	1-633-698-11	MJ-25 BOARD	
68	∗	1-633-699-11	TC-20 BOARD	
69	∗	1-633-700-11	TR-40 BOARD	
70	∗	4-314-320-00	HOLDER, WIRE	
71	∗	3-701-822-00	HOLDER, WIRE	
M907		1-541-360-21	MOTOR, DC BLUSHLESS FAN	

5-3. MECHANICAL DECK BOARDS ASSEMBLY


#2
101
#2
118
not supplied
115
110
115
#2
106
111
107
108
#4
115
#2
121
PLATE,
GUARD,
FLEXIBLE
103
M902
not supplied
#2
not supplied
113
120
105
#4
#2
#1
109
104
112
119
#2
not supplied
116
102
117
114
#2
#2
# 2

Ref. No.	Part No.	Description	Remark
101	* A-7062-168-A	MD-23 (P) BOARD, COMPLETE	
102	* A-7062-164-A	HK-5 BOARD, COMPLETE	
103	* A-7062-165-A	FR-43 BOARD, COMPLETE	
104	* A-7062-166-A	RP-103 BOARD, COMPLETE	
105	* A-7062-167-A	SE-10 (P) BOARD, COMPLETE	
106	* A-7061-824-A	MB-19 (P) BOARD, COMPLETE	
107	* A-7061-825-A	PD-19 (P) BOARD, COMPLETE	
108	* A-7061-826-A	PA-27 BOARD, COMPLETE	
109	* A-7061-827-A	RP-73 (LP) BOARD, COMPLETE	
110	* A-7070-624-A	FP-84 BOARD, COMPLETE	
111	* A-7070-625-A	FP-122 BOARD, COMPLETE	
112	* A-7070-955-A	IG-4 BOARD, COMPLETE	
113	* X-3749-135-1	COVER BLOCK ASSY, FLEXIBLE	
114	3-531-576-01	RIVET	
115	* 3-671-150-11	CLAMP	
116	3-724-107-01	RETAINER, PC BOARD	
117	* 3-940-849-01	PLATE, SHIELD, CORE	
118	* 3-724-199-01	PLATE, SUPPORT, MB	
119	* 3-738-954-01	STOPPER, HK	
120	* 3-739-102-01	LID (H), UPPER, FR SHIELD CASE B	
121	3-724-106-01	PLATE, GUARD, FLEXIBLE	
M902	8-835-304-11	MOTOR, DC U-11B (REEL)	

5-4. CASSETTE COMPARTMENT ASSEMBLY (1)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C902
160
#5
#5
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#5
#7
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#6
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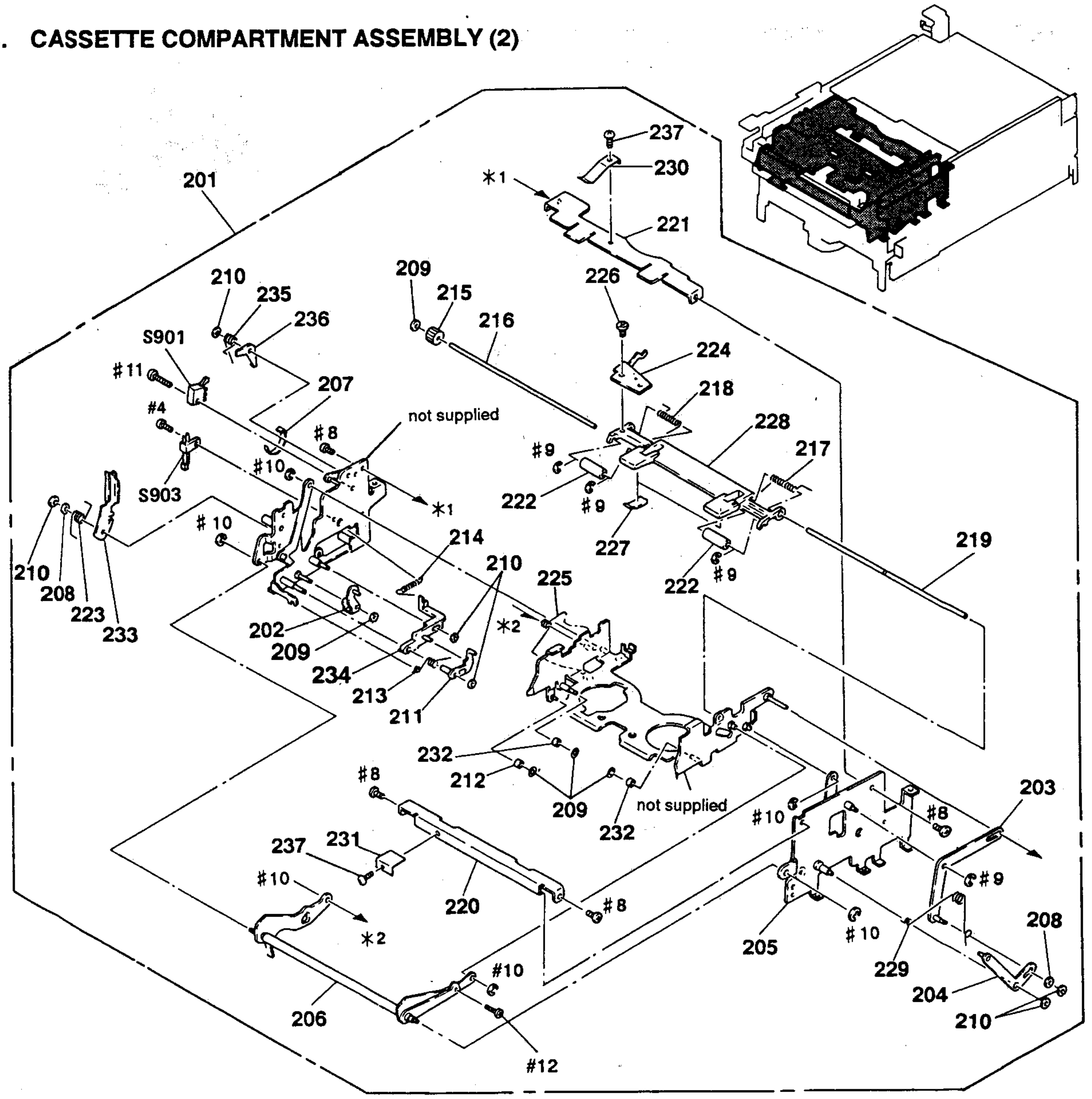
158
162
164
157
153
#8
151
#6
159
#9
163
155
161
156
#2
166
#9
167
#5

Ref. No.	Part No.	Description	Remark
151	* A-7070-627-A	TS-74 (RIGHT) BOARD, COMPLETE	
152	* A-7070-628-A	TS-74 (LEFT) BOARD, COMPLETE	
153	* X-3711-934-1	PLATE SUB ASSY, BLOCK	
154	X-3711-935-3	SHAFT ASSY, WORM	
155	X-3714-193-1	LEVER ASSY (B), GEAR	
156	3-315-414-31	WASHER	
157	3-669-465-00	WASHER (1.5), STOPPER	
158	3-701-437-11	WASHER	
159	3-713-430-01	GEAR (B)	
160	* 3-713-431-01	BRACKET, MOTOR	
161	3-713-433-01	GEAR (A)	
162	3-713-439-01	BEARING	
163	* 3-713-441-01	SPRING, LEAF	
164	3-713-452-01	GEAR (C)	
165	* 3-724-140-01	BRACKET (LEFT)	
166	* 3-724-141-01	BRACKET (RIGHT)	
167	3-724-913-02	RACK	
C902	1-161-057-00	CERAMIC 0.033uF 10% 50V	
M904	X-3711-936-1	MOTOR ASSY, FL (CASSETE COMPARTMENT)	

5-5. CASSETTE COMPARTMENT ASSEMBLY (2)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S901
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#9
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#10
S903
*1
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#9
#10
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222
#9
202
*2
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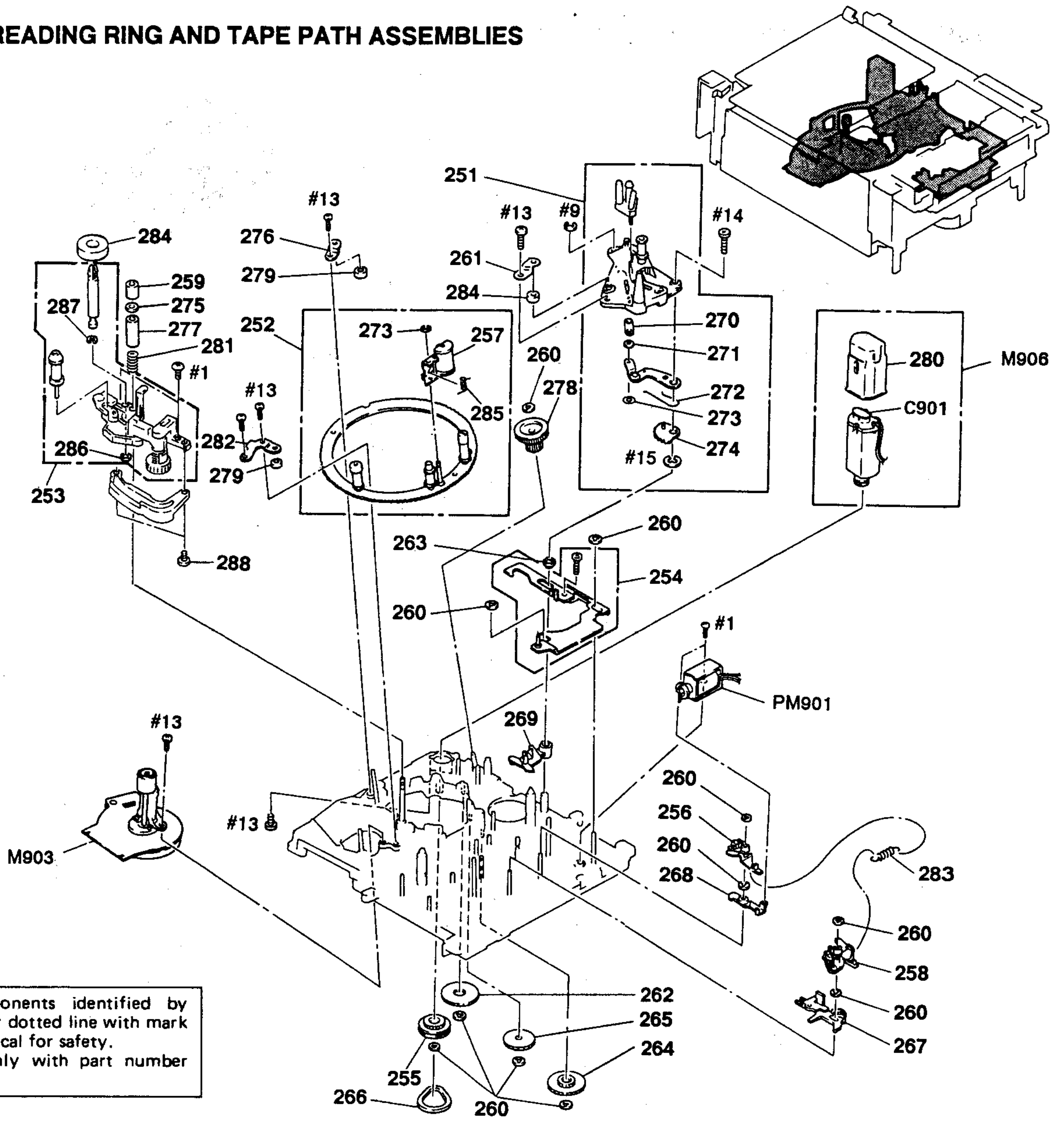
232
#8
212
209
not supplied
232
203
#10
#8
237
231
#10
#9
220
#8
208
*2
205
#10
229
#10
204
210
206
#12

Ref. No.	Part No.	Description	Remark
201	A-7090-645-A	CASSETTE COMPARTMENT BLOCKASSY	
202	* X-3686-541-1	CLAW ASSY, LOCK	
203	X-3711-930-1	LEVER ASSY, HOLDER	
204	X-3711-931-4	LEVER ASSY, DOOR	
205	* X-3711-932-1	PLATE (R) ASSY, SIDE	
206	* X-3711-937-1	JOINT ASSY	
207	* 3-337-402-01	BAND, BINDING	
208	3-533-073-01	WASHER	
209	3-578-265-11	WASHER, STOPPER	
210	3-669-465-00	WASHER (1.5), STOPPER	
211	3-686-692-01	PREVENTION, SLIDER	
212	* 3-686-693-01	ROLLER, LOCK	
213	3-686-694-01	SPRING, TORSION	
214	3-696-047-01	SPRING, TENSION	
215	3-713-429-01	GEAR (D)	
216	* 3-713-440-01	SHAFT, ROLLER	
217	3-713-442-01	SPRING (RIGHT)	
218	3-713-445-01	SPRING (LEFT)	
219	* 3-713-457-01	SHAFT, JOINT	
220	* 3-713-458-01	REINFORCEMENT	
221	* 3-713-462-03	STOPPER, HOLDER	
222	3-713-466-01	ROLLER	
223	3-713-488-01	SPRING (2), TORSION	
224	3-724-912-01	PLATE, FUNCTION, LEVER	
225	3-713-620-01	SPRING (1), TORSION	
226	3-713-622-01	SCREW (M1.3X4), TAPPING, 0	
227	3-713-625-01	SHOE, BRAKE	
228	3-713-626-01	COVER, MULTI	
229	3-713-628-01	SPRING, TORSION	
230	3-713-658-01	SPRING	
231	3-716-921-01	SPRING, LEAF	
232	3-719-590-01	ROLLER, ASSIST	
233	3-721-125-01	LEVER, LOCK	
234	3-721-136-01	SLIDER, LOCK	
235	3-721-163-01	SPRING	
236	3-721-166-01	LEVER, SWITCH	
237	3-739-116-01	SCREW (2X3), +PS	
S901	1-570-407-11	SWITCH, SLIDE (CASSETE COMPARTMENT)	
S903	1-553-226-00	SWITCH, LEAF (CASSETE LOCK)	

5-6. THREADING RING AND TAPE PATH ASSEMBLIES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270
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M906
C901
#13
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253
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254
260
#1
PM901
#13
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268
283
260
258
260
267
M903
#13
262
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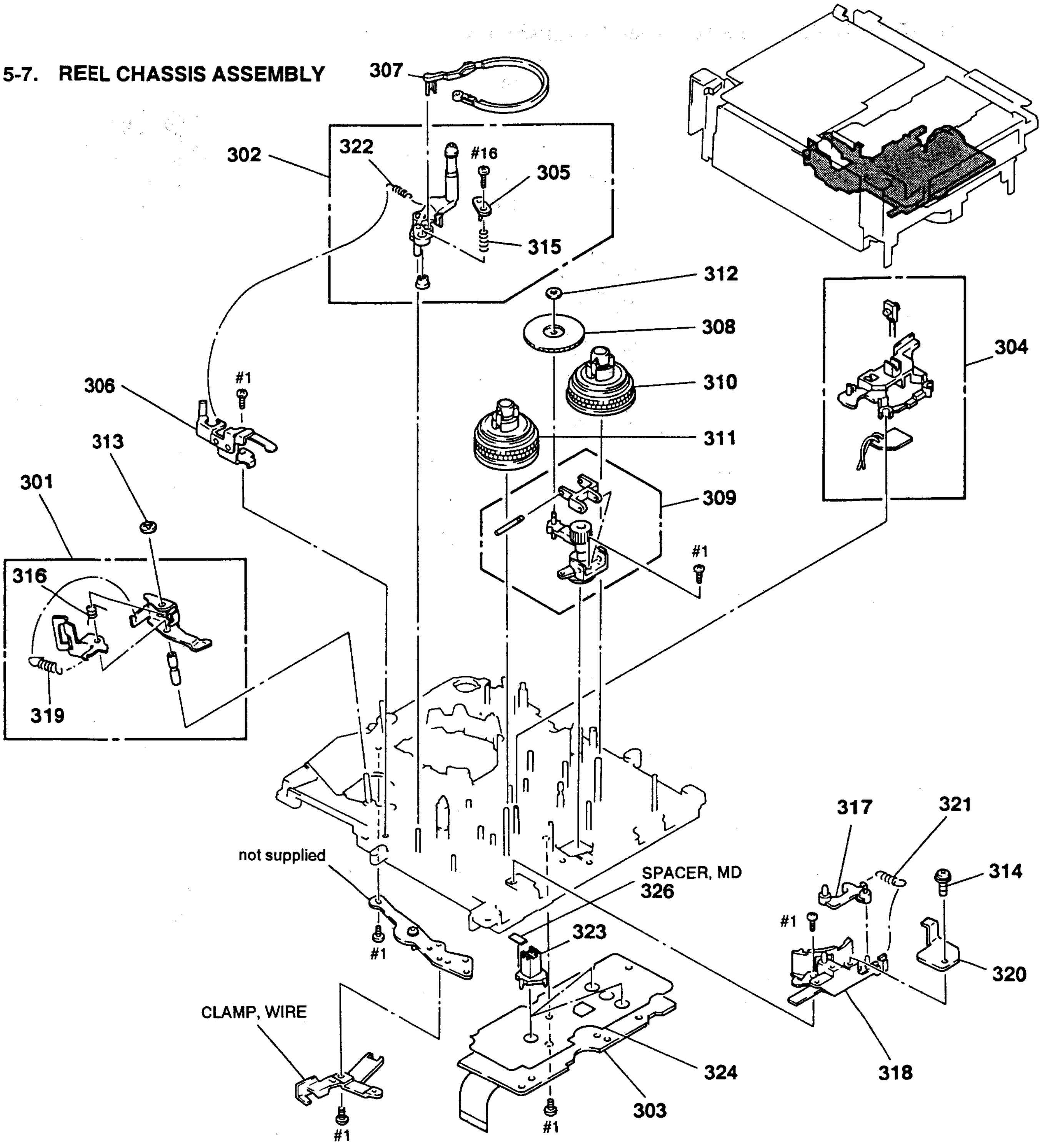
264
255
266
260

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
251	A-7040-001-A	GUIDE BLOCK ASSY, SLANT	
252	A-7040-123-A	RING ASSY, THREADING	
253	A-7040-169-D	GUIDE (P) ASSY, ENTRANCE	
254	A-7040-199-A	SLIDER (M) BLOCK ASSY, LOCK	
255	X-3686-514-1	GEAR ASSY, NO. 1	
256	X-3686-574-1	BRAKE ASSY, MAIN, TAKE-UP	
257	X-3686-648-1	ARM ASSY, PINCH ROLLER	
258	X-3713-429-1	BRAKE ASSY, MAIN, S	
259	3-686-724-01	NUT, GUIDE	
260	3-669-465-00	WASHER (1.5), STOPPER	
261 *	3-686-503-01	RETAINER, ROLLER	
262	3-686-508-01	GEAR, NO. 2	
263	3-686-537-01	RETAINER, LOCK SLODER	
264	3-686-544-01	GEAR, NO. 4	
265	3-686-545-01	GEAR, NO. 3	
266	3-686-546-01	BELT, L- MOTOR	
267 *	3-686-629-01	SLIDER, SELECTION, UPPER & LOWER	
268 *	3-686-635-01	ARM, P	
269 *	3-686-636-04	ARM, T.S RELEASE	
270	3-686-663-01	WASHER, STOPPER, 2 GANG	
271	3-701-436-21	WASHER, POLYEHTHYLENE	
272	3-686-701-01	SPRING	
273	3-315-384-31	WASHER, STOPPER	
274	3-699-509-01	GEAR, SECTOR	
275 *	3-686-894-01	FLANGE, #3 #4 GUIDE	
276 *	3-686-911-01	PLATE, TOP, ROLLER	
277	3-686-912-01	GUIDE, #3 #4	
278	3-697-518-01	GEAR, NO. 10	
279	3-697-538-01	ROLLER, RING	
280 *	3-686-757-01	CAP, SHIELD, L MOTOR	
281	3-699-609-01	SPRING, COMPRESSION	
282 *	3-686-675-01	STOPPER, RING	
283	3-713-560-01	SPRING, TENSION	
284	3-722-153-01	FLYWHEEL	
285 *	3-726-704-01	SPRING, TORSION	
286	3-315-414-00	WASHER	
287	3-578-254-00	RING, RETAINING, E1.2	
288	3-316-938-31	SCREW (B1.4X4), TAPPING	
C901	1-161-057-00	CERAMIC 0.033uF 10% 50V	
M903	8-835-364-01	MOTOR, DC BHF-2802B (CAPSTAN)	
M906	A-7040-065-A	MOTOR ASSY, L (CASSETE LOADING)	
PM901 ⚠	1-454-377-31	SOLENOID, PLUNGER	

5-7. REEL CHASSIS ASSEMBLY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#1
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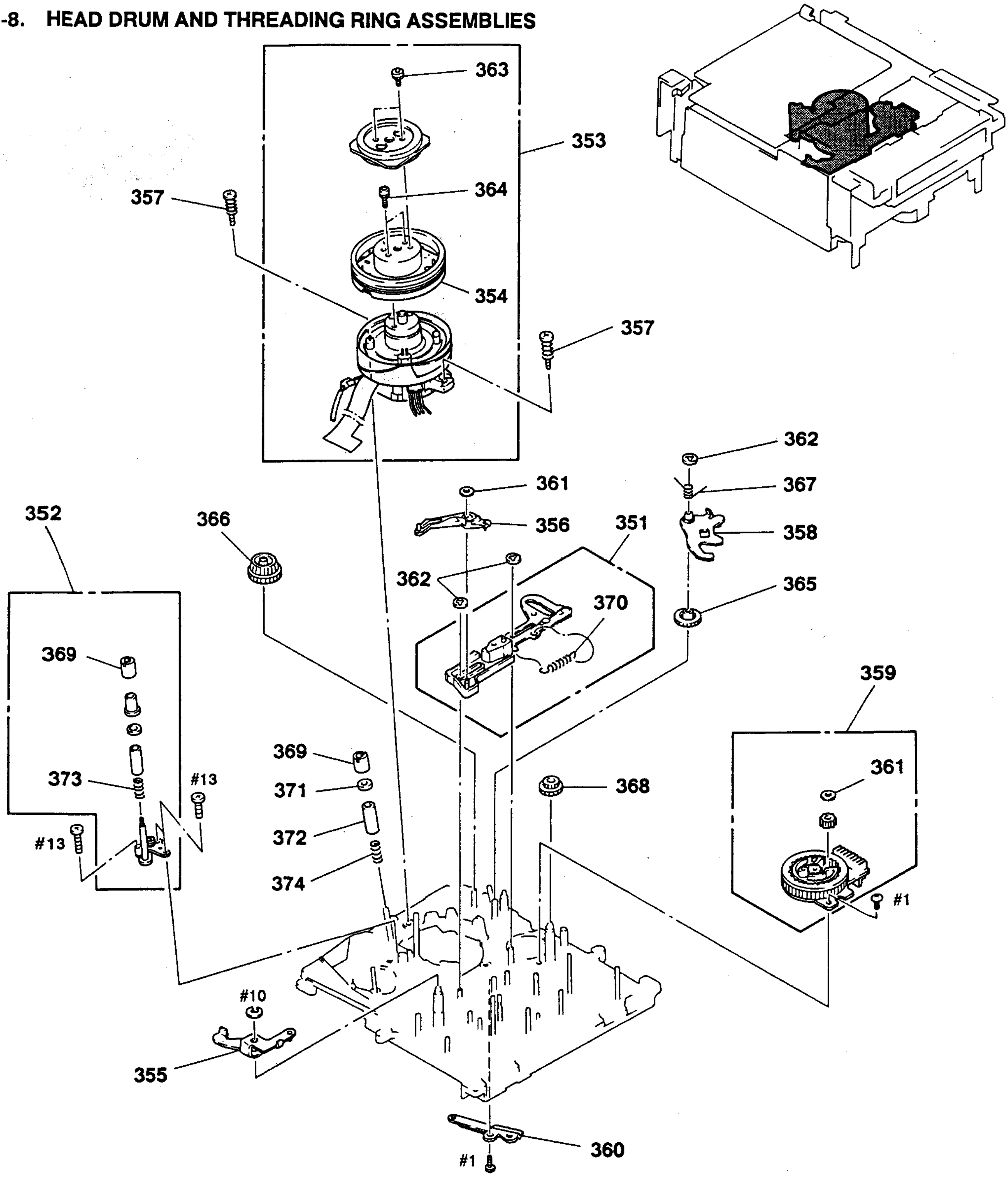
321
314
not supplied
SPACER, MD
326
#1
323
320
#1
CLAMP, WIRE
324
318
303
#1
#1

Ref. No.	Part No.	Description	Remark
301	A-7040-008-A	ARM ASSY, PINCH PRESS	
302	A-7040-071-A	ARM ASSY, TENSION REGULATOR	
303	* A-7061-818-A	RS-31 BOARD, COMPLETE	
304	* A-7070-024-A	LD-1 BOARD, COMPLETE	
305	* X-3686-523-1	PLATE ASSY, TENSION REGULATOR	
306	* X-3686-525-1	HOOK ASSY, SPRING	
307	X-3686-531-1	BAND ASSY, TENSION REGULATOR	
308	X-3686-763-1	GEAR (B) ASSY, DRIVING	
309	X-3711-963-1	DRIVING COMPLETE ASSY	
310	X-3711-998-1	TABLE ASSY, REEL, TAKE-UP	
311	X-3713-427-1	TABLE ASSY, REEL, S	
312	3-315-384-31	WASHER, STOPPER	
313	3-669-465-00	WASHER (1.5), STOPPER	
314	3-669-480-11	+ PTPWH 2	
315	3-669-666-00	SPRING, COMPRESSION	
316	3-686-568-01	SPRING, TORSION	
317	* 3-686-637-01	BRAKE (S), SOFT	
318	* 3-686-760-01	GUIDE, BAND	
319	3-686-885-01	SPRING, TENSION	
320	* 3-686-991-01	STOPPER, REEL TABLE	
321	3-714-014-01	SPRING, TENSION	
322	3-699-519-01	SPRING, TENSION	
323	3-712-410-01	HOLDER, RS	
324	3-712-411-01	INSULATOR, RS	
325	3-712-406-01	CLAMP, WIRE	
326	3-722-175-01	SPACER, MD	

5-8. HEAD DRUM AND THREADING RING ASSEMBLIES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#13
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#13
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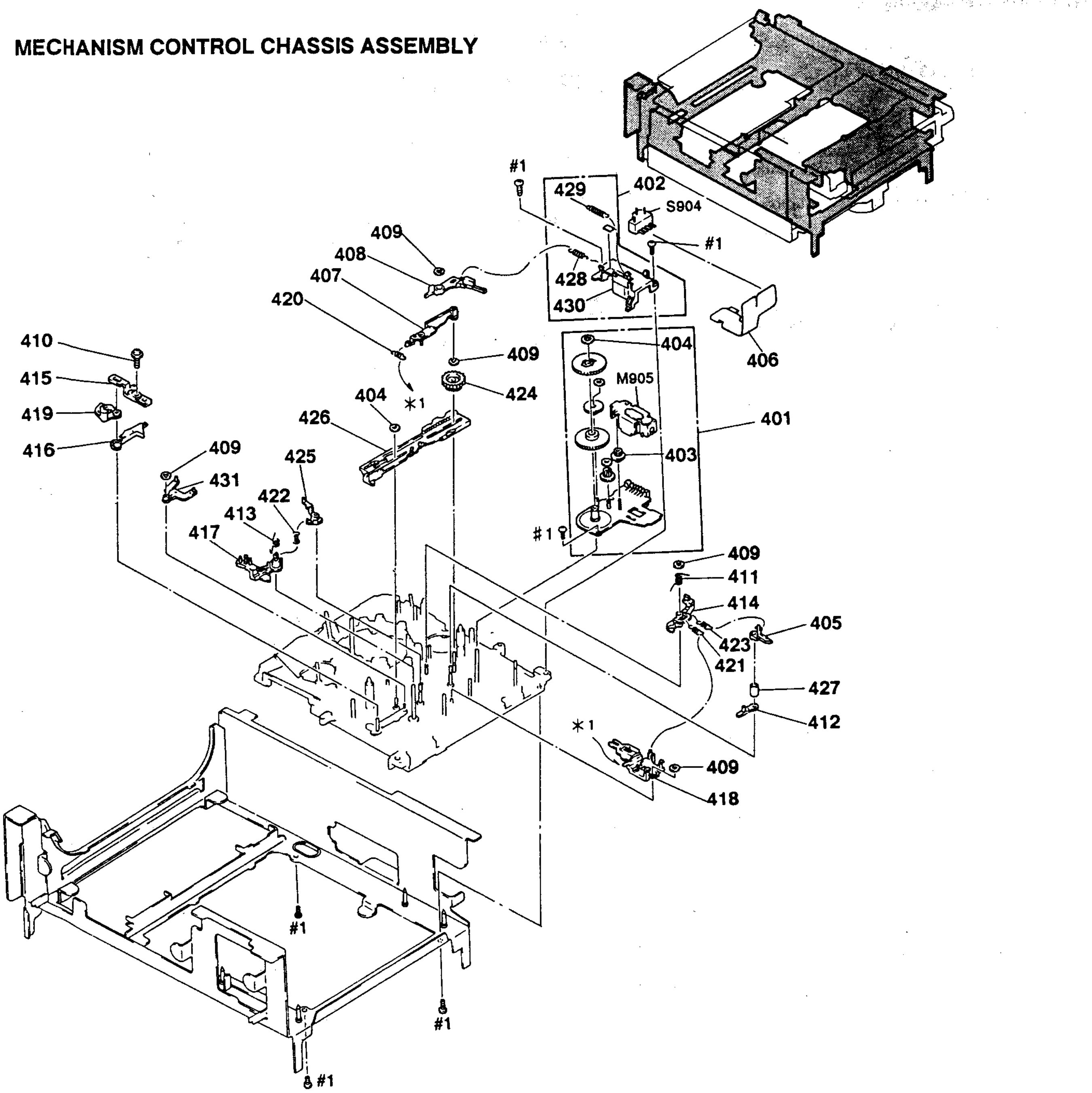
374
#1
#10
355
360
#1

Ref. No.	Part No.	Description	Remark
351	* A-7040-010-A	SLIDER ASSY, L	
352	A-7040-058-A	GUIDE BLOCK COMPLETE ASSY, #5	
353	A-7048-389-A	DRUM ASSY (DGH-68A-R)	
354	A-7049-328-A	DRUM ASSY, ROTARY UPPER (DGR-68-R)	
355	* X-3686-509-1	LEVER ASSY, PINCH PRESS	
356	* X-3686-518-3	ARM ASSY	
357	X-3686-569-1	SCREW ASSY, FITTING	
358	X-3686-579-1	CHANGE ASSY, DRIVE	
359	X-3712-403-1	L-SW ASSY (LS-9 BOARD)	
360	1-535-535-11	TERMINAL, SHAFT GROUND	
361	3-315-384-31	WASHER, STOPPER	
362	3-669-465-00	WASHER (1.5), STOPPER	
363	3-686-422-01	WASHER (2X2.7), BOLT HOLE	
364	3-686-493-01	SCREW (M2X5) P1	
365	3-686-535-01	GEAR, NO.8	
366	3-686-539-01	GEAR, NO.9	
367	3-686-540-01	SPRING, TORSION	
368	3-686-702-01	GEAR, DRIVING, GUIDE, SLANT	
369	3-686-724-01	NUT, GUIDE	
370	3-686-886-01	SPRING, TENSION	
371	* 3-686-894-01	FLANGE, #3 #4 GUIDE	
372	3-686-912-01	GUIDE, #3 #4	
373	3-699-514-01	SPRING, COMPRESSION	
374	3-699-609-01	SPRING, COMPRESSION	

5-9. MECHANISM CONTROL CHASSIS ASSEMBLY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428
430
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Ref. No.	Part No.	Description	Remark
401	A-7040-159-A	M-SW ASSY	
402	A-7040-198-A	COVER (M) ASSY, C MOTOR	
403	3-308-502-00	WHEEL, WORM	
404	3-315-384-31	WASHER, STOPPER	
405	X-3711-993-1	BRAKE ASSY, REW	
406	* 1-630-923-11	FP-206 FLEXIBLE BOARD	
407	* X-3686-528-4	ARM ASSY, B RELEASE	
408	X-3711-987-2	BRAKE ASSY, T.S	
409	3-669-465-00	WASHER (1.5), STOPPER	
410	3-686-528-01	SCREW (2X6), +PSW	
411	3-686-579-01	SPRING	
412	* 3-686-580-01	ARM, SET UP	
413	3-686-603-04	SPRING	
414	* 3-686-634-01	ARM, RL	
415	* 3-686-642-01	PLATE, ADJUSTMENT, BAND	
416	* 3-686-643-01	ARM, MODE	
417	* 3-686-644-01	ARM, BAND	
418	* 3-686-656-01	SLIDER, B RELEASE	
419	* 3-686-755-01	DISK, EJECT	
420	3-686-903-01	SPRING, TENSION	
421	3-686-904-01	SPRING, TENSION	
422	3-686-905-02	SPRING, TENSION	
423	3-686-906-01	SPRING, TENSION	
424	3-686-909-01	GEAR, MODE OUTPUT	
425	3-686-996-01	BRAKE (S), HARD	
426	3-716-935-01	SLIDER, M	
427	3-716-933-01	SPACER, REW BRAKE	
428	3-714-035-01	SPRING, TENSION	
429	3-722-110-01	SPRING, TENSION	
430	3-739-107-01	COVER (M), C MOTOR	
431	* X-3686-530-1	ARM (A) ASSY, SELECTION	
M905	8-835-138-01	MOTOR, DC (DNR-5301B) (CONTROL)	
S904	1-572-298-21	SWITCH, PUSH (REC PROOF, MPHG, ME/MP)	

FB-169 (P)

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description			Remark
	* A-7062-654-A	FB-169 (P) BOARD, COMPLETE			
		**************************			
	1-809-338-11	INDICATOR, LED			
	* 3-689-521-01	HOLDER, LED, ROUND			
	* 3-697-607-01	HOLDER (SU), LED			
	* 3-739-130-01	HOLDER, LEVEL METER			
	* 3-739-131-01	HOLDER (H), LED			
		< CAPACITOR >			
C001	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C002	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C003	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C006	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C007	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C008	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C009	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C010	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C011	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C012	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C013	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C014	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C015	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C103	1-135-168-21	TANTAL. CHIP	100uF	20%	4V
C104	1-135-161-21	TANTALUM CHIP	22uF	10%	6.3V
C105	1-135-168-21	TANTAL. CHIP	100uF	20%	4V
C106	1-135-161-21	TANTALUM CHIP	22uF	10%	6.3V
C107	1-135-159-21	TANTALUM CHIP	10uF	10%	16V
C108	1-135-159-21	TANTALUM CHIP	10uF	10%	16V
C111	1-126-369-11	ELECT	220uF	20%	6.3V
C112	1-126-369-11	ELECT	220uF	20%	6.3V
C113	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C114	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C159	1-135-159-21	TANTALUM CHIP	10uF	10%	16V
C160	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C161	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C162	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C163	1-135-159-21	TANTALUM CHIP	10uF	10%	16V
C164	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C165	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C166	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C167	1-126-160-11	ELECT	1uF	20%	50V
C168	1-135-159-21	TANTALUM CHIP	10uF	10%	16V
C169	1-135-153-21	TANTALUM CHIP	2.2uF	10%	20V
C170	1-135-153-21	TANTALUM CHIP	2.2uF	10%	20V
C171	1-135-159-21	TANTALUM CHIP	10uF	10%	16V
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C173	1-164-697-91	CERAMIC CHIP	0.0027uF	5%	50V
C174	1-164-697-91	CERAMIC CHIP	0.0027uF	5%	50V
C175	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C176	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
		< CONNECTOR >			
CN001	1-569-301-11	PIN, CONNECTOR (PC BOARD) 5P			
CN002	1-569-301-11	PIN, CONNECTOR (PC BOARD) 5P			
CN003	1-569-301-11	PIN, CONNECTOR (PC BOARD) 5P			
CN004	1-569-301-11	PIN, CONNECTOR (PC BOARD) 5P			
CN101	1-506-469-11	CONNECTOR 4P, MALE			
		< DIODE >			
D001	8-719-800-76	DIODE 1SS226			
D009	8-719-945-82	DIODE GL5HS42 (STANDBY)			
D010	8-719-920-05	DIODE SLP281C-50 (POWER)			
D011	8-719-907-92	DIODE GL-5EG521-B (PCM)			
D012	8-719-941-46	DIODE GL-5HY41 (SP)			
D013	8-719-941-46	DIODE GL-5HY41 (📼)			
D014	8-719-918-96	DIODE AA3422S (⏸)			

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Ref. No.	Part No.	Description	Remark
D015	8-719-812-32	DIODE TLY123 (▶▶)	
D016	8-719-920-05	DIODE SLP281C-50 (▷)	
D017	8-719-812-32	DIODE TLY123 (◀◀)	
D018	8-719-939-36	DIODE GL-5HY42 (⏏)	
D019	8-719-812-31	DIODE TLR123 (●)	
D020	8-719-913-59	DIODE LT-9230D (HI 8)	
D024	8-719-906-58	DIODE GL-5HD42 (TIMER REC)	
D025	8-719-812-31	DIODE TLR123 (AUDIO DUB)	
D026	8-719-812-31	DIODE TLR123 (TC DUB)	
D101	8-719-104-34	DIODE 1S2836	
D102	8-719-104-34	DIODE 1S2836	
D103	1-520-503-11	METER UNIT, LED LEVEL	
D155	8-719-104-34	DIODE 1S2836	
D156	8-719-104-34	DIODE 1S2836	
D157	8-719-400-18	DIODE MA152WK	
D158	8-719-104-34	DIODE 1S2836	
		< IC >	
IC001	8-752-818-14	IC CXP5046H-255Q	
IC002	8-759-937-56	IC S-8054ALB-LM-S	
IC003	8-741-100-48	IC SBX1610-59	
IC004	8-759-927-46	IC SN74HC00NS	
IC101	8-759-981-XX	IC RC4560M	
IC102	8-759-208-11	IC MC14053BF	
IC152	8-759-981-92	IC RC4558M	
IC153	8-759-981-92	IC RC4558M	
IC154	8-759-700-62	IC NJM4562D	
		< COIL >	
L001	1-408-789-21	INDUCTOR, CHIP 100uH	
L101	1-408-979-21	INDUCTOR 56uH	
		< TRANSISTOR >	
Q012	8-729-901-06	TRANSISTOR DTA144EK	
Q013	8-729-140-88	TRANSISTOR FP1A3M	
Q015	8-729-216-22	TRANSISTOR 2SA1162	
Q016	8-729-900-53	TRANSISTOR DTC114EK	
Q017	8-729-901-06	TRANSISTOR DTA144EK	
Q018	8-729-901-06	TRANSISTOR DTA144EK	
Q019	8-729-901-01	TRANSISTOR DTC144EK	
Q101	8-729-901-01	TRANSISTOR DTC144EK	
Q103	8-729-216-22	TRANSISTOR 2SA1162	
Q104	8-729-100-66	TRANSISTOR 2SC1623	
Q105	8-729-202-38	TRANSISTOR 2SC3326N	
Q106	8-729-202-38	TRANSISTOR 2SC3326N	
Q153	8-729-202-38	TRANSISTOR 2SC3326N	
Q154	8-729-202-38	TRANSISTOR 2SC3326N	
Q155	8-729-202-38	TRANSISTOR 2SC3326N	
Q156	8-729-100-66	TRANSISTOR 2SC1623	
Q157	8-729-901-06	TRANSISTOR DTA144EK	
Q158	8-729-901-06	TRANSISTOR DTA144EK	
Q159	8-729-901-01	TRANSISTOR DTC144EK	
Q160	8-729-140-75	TRANSISTOR 2SD999-CLCK	
Q161	8-729-101-07	TRANSISTOR 2SB798-DLDK	
Q162	8-729-202-38	TRANSISTOR 2SC3326N	
		< RESISTOR >	
R001	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R002	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R003	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R005	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R006	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R007	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R008	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R009	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R010	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R011	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R012	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R013	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R014	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R015	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R016	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R017	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R018	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R019	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R020	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R021	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R022	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R023	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R024	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R025	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R026	1-216-037-00	METAL CHIP 330 5% 1/10W	
R027	1-216-029-00	METAL CHIP 150 5% 1/10W	
R028	1-216-029-00	METAL CHIP 150 5% 1/10W	
R029	1-216-037-00	METAL CHIP 330 5% 1/10W	
R030	1-216-037-00	METAL CHIP 330 5% 1/10W	
R031	1-216-037-00	METAL CHIP 330 5% 1/10W	
R032	1-216-037-00	METAL CHIP 330 5% 1/10W	
R033	1-216-037-00	METAL CHIP 330 5% 1/10W	
R034	1-216-037-00	METAL CHIP 330 5% 1/10W	
R035	1-216-037-00	METAL CHIP 330 5% 1/10W	
R036	1-216-037-00	METAL CHIP 330 5% 1/10W	
R037	1-216-029-00	METAL CHIP 150 5% 1/10W	
R038	1-216-029-00	METAL CHIP 150 5% 1/10W	
R039	1-216-029-00	METAL CHIP 150 5% 1/10W	
R040	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R041	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R042	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	

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Ref. No.	Part No.	Description				Remark
R043	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R044	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R045	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R046	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R047	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R048	1-216-037-00	METAL CHIP	330	5%	1/10W	
R050	1-216-037-00	METAL CHIP	330	5%	1/10W	
R051	1-216-037-00	METAL CHIP	330	5%	1/10W	
R052	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R053	1-216-033-00	METAL CHIP	220	5%	1/10W	
R054	1-216-033-00	METAL CHIP	220	5%	1/10W	
R055	1-216-033-00	METAL CHIP	220	5%	1/10W	
R103	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R104	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R105	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R106	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R107	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R110	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R111	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R112	1-216-037-00	METAL CHIP	330	5%	1/10W	
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R123	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R124	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R125	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R126	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R127	1-216-037-00	METAL CHIP	330	5%	1/10W	
R128	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R129	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R130	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R131	1-216-295-00	METAL CHIP	0	5%	1/10W	
R132	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R133	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R134	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R135	1-216-295-00	METAL CHIP	0	5%	1/10W	
R168	1-216-295-00	METAL CHIP	0	5%	1/10W	
R170	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R171	1-216-295-00	METAL CHIP	0	5%	1/10W	
R173	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R174	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R175	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R176	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R177	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R178	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R179	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R180	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R181	1-216-049-00	METAL CHIP	1K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R182	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R183	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R184	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R185	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R186	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R187	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R188	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R189	1-216-107-00	METAL CHIP	270K	5%	1/10W	
R190	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R191	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R192	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R193	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R194	1-216-295-00	METAL CHIP	0	5%	1/10W	
R195	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R196	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R197	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R198	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R199	1-216-107-00	METAL CHIP	270K	5%	1/10W	
R200	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R201	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R202	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R203	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R204	1-216-105-00	METAL CHIP	220K	5%	1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV001	1-230-122-00	RES. VAR. CARBON 100K (SLOW ADJ)
RV002	1-230-874-11	RES. ADJ. METAL100K
RV101	1-228-988-00	RES. VAR. CARBON 10K/10K (PHONE LEVEL)
RV151	1-230-122-00	RES. VAR. CARBON 100K (REC LEVEL L)
RV152	1-230-122-00	RES. VAR. CARBON 100K (REC LEVEL R)

< SWITCH >

Ref. No.	Part No.	Description
S001	1-554-174-00	SWITCH, KEY BOARD (■ STOP)
S002	1-554-174-00	SWITCH, KEY BOARD (● REC)
S003	1-554-174-00	SWITCH, KEY BOARD (▶▶ FF)
S004	1-554-174-00	SWITCH, KEY BOARD (⏏ EJECT)
S005	1-554-174-00	SWITCH, KEY BOARD (▷ PLAY)
S006	1-554-174-00	SWITCH, KEY BOARD (❚❚ PAUSE)
S007	1-554-174-00	SWITCH, KEY BOARD (POWER)
S008	1-554-174-00	SWITCH, KEY BOARD (◀◀ REW)
S009	1-554-174-00	SWITCH, KEY BOARD (RESET)
S010	1-570-864-11	SWITCH, SLIDE (TC COUNTER)
S011	1-570-836-11	SWITCH, SLIDE (AUDIO OUTPUT)
S012	1-570-854-11	SWITCH, SLIDE (TIMER)
S013	1-570-864-11	SWITCH, SLIDE (AUTO REPEAT)
S014	1-570-864-11	SWITCH, SLIDE (INPUT SELECT)
S015	1-554-174-00	SWITCH, KEY BOARD (AUDIO DUB)
S016	1-571-787-11	SWITCH, TACTILE (❚▶)
S017	1-571-787-11	SWITCH, TACTILE (◀❚)

Ref. No.	Part No.	Description	Remark
S018	1-554-174-00	SWITCH, KEY BOARD (TC DUB)	
		< CRYSTAL >	
X001	1-567-346-11	OSCILLATOR, CERAMIC (5MHz)	
***			
*	A-7062-165-A	FR-43 BOARD, COMPLETE *********************	
*	3-739-102-01	LID (H), UPPER, FR SHIELD CASE	
		< FLAT TYPE WIRE >	
A3	1-559-763-11	WIRE, FLAT TYPE 26P	
		< CAPACITOR >	
C002	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C004	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C005	1-135-091-00	TANTAL. CHIP 1uF 20% 16V	
C006	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C007	1-135-091-00	TANTAL. CHIP 1uF 20% 16V	
C008	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C009	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C010	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C011	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C012	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C013	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C031	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C032	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C033	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C034	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C041	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C042	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C043	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C044	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C045	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C046	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C047	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C048	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C051	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C052	1-135-211-11	TANTAL. CHIP 6.8uF 20% 6.3V	
C053	1-135-148-21	TANTAL. CHIP 1.5uF 20% 10V	
C054	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C055	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C056	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C057	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C058	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C059	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C060	1-163-035-00	CERAMIC CHIP 0.047uF 50V	

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN001	1-562-629-11	SOCKET, CONNECTOR 19P	
CN002	1-565-209-11	CONNECTOR, FPC (ZIF) 26P	
CN003	1-506-473-11	CONNECTOR 8P, MALE	
CN004	1-506-472-11	CONNECTOR 7P, MALE	
		< DIODE >	
D001	8-719-400-18	DIODE MA152WK	
		< IC >	
IC051	8-759-710-09	IC NJM2233AM	
IC052	8-759-009-07	IC HD14053BFP	
		< COIL >	
L001	1-408-777-00	INDUCTOR CHIP 10uH	
L031	1-408-777-00	INDUCTOR CHIP 10uH	
L041	1-408-793-21	INDUCTOR CHIP 220uH	
L042	1-408-777-00	INDUCTOR CHIP 10uH	
L051	1-408-785-21	INDUCTOR CHIP 47uH	
		< TRANSISTOR >	
Q001	8-729-202-38	TRANSISTOR 2SC3326N	
Q002	8-729-202-38	TRANSISTOR 2SC3326N	
Q003	8-729-202-38	TRANSISTOR 2SC3326N	
Q004	8-729-202-38	TRANSISTOR 2SC3326N	
Q005	8-729-901-05	TRANSISTOR DTA124EK	
Q006	8-729-901-05	TRANSISTOR DTA124EK	
Q007	8-729-901-01	TRANSISTOR DTC144EK	
Q008	8-729-901-01	TRANSISTOR DTC144EK	
Q009	8-729-320-17	TRANSISTOR 2SA1122-CD	
Q031	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q032	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q041	8-729-216-22	TRANSISTOR 2SA1162	
Q042	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q043	8-729-320-17	TRANSISTOR 2SA1122-CD	
		< RESISTOR >	
R001	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R002	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R003	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R004	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R005	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R006	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R007	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R008	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R009	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R010	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R011	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R012	1-216-097-00	METAL CHIP 100K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R016	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R017	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R018	1-216-695-11	METAL CHIP 68K 0.5% 1/10W	
R019	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R020	1-216-025-00	METAL CHIP 100 5% 1/10W	
R021	1-216-025-00	METAL CHIP 100 5% 1/10W	
R022	1-216-025-00	METAL CHIP 100 5% 1/10W	
R023	1-216-025-00	METAL CHIP 100 5% 1/10W	
R024	1-216-033-00	METAL CHIP 220 5% 1/10W	
R025	1-216-033-00	METAL CHIP 220 5% 1/10W	
R031	1-216-041-00	METAL CHIP 470 5% 1/10W	
R032	1-216-047-00	METAL CHIP 820 5% 1/10W	
R033	1-216-035-00	METAL CHIP 270 5% 1/10W	
R034	1-216-039-00	METAL CHIP 390 5% 1/10W	
R035	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R036	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R037	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R038	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R039	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R040	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R041	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R042	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R043	1-216-037-00	METAL CHIP 330 5% 1/10W	
R044	1-216-041-00	METAL CHIP 470 5% 1/10W	
R045	1-216-021-00	METAL CHIP 68 5% 1/10W	
R046	1-216-013-00	METAL CHIP 33 5% 1/10W	
R047	1-216-043-00	METAL CHIP 560 5% 1/10W	
R048	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R049	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R051	1-216-035-00	METAL CHIP 270 5% 1/10W	
R052	1-216-025-00	METAL CHIP 100 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV1	1-230-871-11	RES, ADJ, METAL 22K	
RV2	1-230-871-11	RES, ADJ, METAL 22K	

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* 1-633-695-11 HE-2 BOARD
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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C201	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C202	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C203	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN201	1-506-468-11	CONNECTOR 3P, MALE	

< JACK >

Ref. No.	Part No.	Description	Remark
J201	1-507-792-00	JACK (HEADPHONES)	

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* A-7062-164-A HK-5 BOARD, COMPLETE
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3-531-576-01 RIVET
* 3-724-107-01 RETAINER, PC BOARD

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C101	1-135-166-21	TANTALUM CHIP 47uF 10% 10V	
C102	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C103	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C104	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C105	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C106	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
C108	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C109	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C110	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C111	1-163-114-00	CERAMIC CHIP 75PF 5% 50V	
C112	1-163-245-11	CERAMIC CHIP 56PF 5% 50V	
C113	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C114	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C115	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C116	1-135-070-00	TANTALUM CHIP 0.1uF 10% 35V	
C117	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C118	1-163-224-11	CERAMIC CHIP 7PF 0.25PF 50V	
C119	1-163-227-11	CERAMIC CHIP 10PF 5% 50V	
C120	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C122	1-163-085-00	CERAMIC CHIP 2PF 50V	
C123	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C124	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	
C126	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C127	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C128	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C129	1-163-227-11	CERAMIC CHIP 10PF 5% 50V	
C130	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C131	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C132	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C133	1-163-089-00	CERAMIC CHIP 6PF 50V	
C134	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C135	1-163-224-11	CERAMIC CHIP 7PF 0.25PF 50V	
C136	1-163-099-00	CERAMIC CHIP 18PF 5% 50V	
C137	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C138	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C139	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C140	1-163-035-00	CERAMIC CHIP 0.047uF 50V	

Ref. No.	Part No.	Description			Remark
C141	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C142	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C143	1-135-145-11	TANTALUM CHIP	0.47uF	10%	25V
C144	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C145	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C146	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C147	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C148	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C149	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C181	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C182	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C183	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C184	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C201	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C202	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C203	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C204	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C206	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C207	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C208	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C209	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C210	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C211	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C212	1-135-211-11	TANTAL. CHIP	6.8uF	20%	6.3V
C213	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C214	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C215	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C216	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C217	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C218	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C219	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C220	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C221	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C222	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C223	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C224	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C302	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C303	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C304	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C305	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C307	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C308	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C309	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C311	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C313	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C314	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C316	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C317	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C318	1-164-491-11	CERAMIC CHIP	0.0003uF	5%	50V
C319	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C320	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C321	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C322	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C323	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C324	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C325	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C326	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C327	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C328	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C329	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C330	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C331	1-135-211-11	TANTAL. CHIP	6.8uF	20%	6.3V
C332	1-135-155-21	TANTALUM CHIP	4.7uF	10%	10V
C334	1-135-155-21	TANTALUM CHIP	4.7uF	10%	10V
C335	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C337	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C338	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C339	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C340	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C341	1-135-161-21	TANTALUM CHIP	22uF	10%	6.3V
C342	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C343	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C344	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C345	1-163-134-00	CERAMIC CHIP	510PF	5%	50V
C347	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C348	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C349	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C350	1-135-161-21	TANTALUM CHIP	22uF	10%	6.3V
C402	1-124-968-11	ELECT	22uF	20%	6.3V
C403	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C404	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C405	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C406	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C407	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C408	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C409	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C410	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C411	1-163-088-00	CERAMIC CHIP	5PF		50V
C412	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C413	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C414	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C415	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C416	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C417	1-162-722-11	CERAMIC	330PF	1%	50V
C418	1-162-724-11	CERAMIC	390PF	1%	50V
C419	1-164-491-11	CERAMIC CHIP	0.0003uF	5%	50V
C420	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V

Ref. No.	Part No.	Description		Remark
C421	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C422	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C423	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C424	1-135-155-21	TANTALUM CHIP	4.7uF	10% 10V
C427	1-135-161-21	TANTALUM CHIP	22uF	10% 6.3V
C428	1-135-161-21	TANTALUM CHIP	22uF	10% 6.3V
C429	1-135-161-21	TANTALUM CHIP	22uF	10% 6.3V
C430	1-163-097-00	CERAMIC CHIP	15PF	5% 50V
C501	1-135-166-21	TANTALUM CHIP	47uF	10% 10V
C502	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C503	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C504	1-163-038-00	CERAMIC CHIP	0.1uF	25V
C505	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C506	1-163-235-11	CERAMIC CHIP	22PF	5% 50V
C507	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C508	1-163-245-11	CERAMIC CHIP	56PF	5% 50V
C509	1-135-156-21	TANTALUM CHIP	6.8uF	10% 6.3V
C510	1-135-156-21	TANTALUM CHIP	6.8uF	10% 6.3V
C511	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C512	1-135-149-21	TANTALUM CHIP	2.2uF	20% 10V
C513	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C514	1-163-133-00	CERAMIC CHIP	470PF	5% 50V
C515	1-163-105-00	CERAMIC CHIP	33PF	5% 50V
C516	1-135-155-21	TANTALUM CHIP	4.7uF	10% 10V
C517	1-163-121-00	CERAMIC CHIP	150PF	5% 50V
C519	1-135-149-21	TANTALUM CHIP	2.2uF	20% 10V
C520	1-163-245-11	CERAMIC CHIP	56PF	5% 50V
C521	1-163-103-00	CERAMIC CHIP	27PF	5% 50V
C522	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C523	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C524	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C525	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C526	1-135-161-21	TANTALUM CHIP	22uF	10% 6.3V
C527	1-135-161-21	TANTALUM CHIP	22uF	10% 6.3V
C528	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C529	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C531	1-135-161-21	TANTALUM CHIP	22uF	10% 6.3V
C532	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V
C601	1-135-156-21	TANTALUM CHIP	6.8uF	10% 6.3V
C602	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C603	1-163-263-11	CERAMIC CHIP	330PF	5% 50V
C604	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C605	1-163-251-11	CERAMIC CHIP	100PF	5% 50V
C606	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C607	1-135-070-00	TANTALUM CHIP	0.1uF	10% 35V
C608	1-163-263-11	CERAMIC CHIP	330PF	5% 50V
C609	1-135-156-21	TANTALUM CHIP	6.8uF	10% 6.3V
C610	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C611	1-163-035-00	CERAMIC CHIP	0.047uF	50V

Ref. No.	Part No.	Description		Remark
C612	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C613	1-135-073-00	TANTALUM CHIP	0.33uF	10% 35V
C614	1-163-098-00	CERAMIC CHIP	16PF	5% 50V
C615	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C616	1-163-108-00	CERAMIC CHIP	43PF	5% 50V
C617	1-163-263-11	CERAMIC CHIP	330PF	5% 50V
C618	1-163-263-11	CERAMIC CHIP	330PF	5% 50V
C619	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C620	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V
C621	1-135-155-21	TANTALUM CHIP	4.7uF	10% 10V
C622	1-135-156-21	TANTALUM CHIP	6.8uF	10% 6.3V
C623	1-135-156-21	TANTALUM CHIP	6.8uF	10% 6.3V
C624	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C625	1-163-121-00	CERAMIC CHIP	150PF	5% 50V
C627	1-163-075-00	CERAMIC CHIP	0.047uF	50V
C628	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C629	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C630	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V
C631	1-135-072-21	TANTALUM CHIP	0.22uF	10% 35V
C632	1-135-149-21	TANTALUM CHIP	2.2uF	20% 10V
C633	1-163-833-00	CERAMIC CHIP	0.068uF	25V
C634	1-135-149-21	TANTALUM CHIP	2.2uF	20% 10V
C635	1-164-182-11	CERAMIC CHIP	0.0033uF	10% 50V
C636	1-163-263-11	CERAMIC CHIP	330PF	5% 50V
C637	1-135-149-21	TANTALUM CHIP	2.2uF	20% 10V
C638	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C639	1-163-263-11	CERAMIC CHIP	330PF	5% 50V
C640	1-163-109-00	CERAMIC CHIP	47PF	5% 50V
C641	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C642	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C644	1-163-115-00	CERAMIC CHIP	82PF	5% 50V
C645	1-163-245-11	CERAMIC CHIP	56PF	5% 50V
C646	1-163-119-00	CERAMIC CHIP	120PF	5% 50V
C647	1-163-251-11	CERAMIC CHIP	100PF	5% 50V
C648	1-163-251-11	CERAMIC CHIP	100PF	5% 50V
C649	1-163-105-00	CERAMIC CHIP	33PF	5% 50V
C650	1-163-251-11	CERAMIC CHIP	100PF	5% 50V
C651	1-163-251-11	CERAMIC CHIP	100PF	5% 50V
C652	1-135-149-21	TANTALUM CHIP	2.2uF	20% 10V
C653	1-163-035-00	CERAMIC CHIP	0.047uF	50V
C654	1-163-251-11	CERAMIC CHIP	100PF	5% 50V
C655	1-163-113-00	CERAMIC CHIP	68PF	5% 50V
C657	1-163-133-00	CERAMIC CHIP	470PF	5% 50V
C658	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C659	1-163-245-11	CERAMIC CHIP	56PF	5% 50V
C660	1-163-011-11	CERAMIC CHIP	0.0015uF	10% 50V
C661	1-163-235-11	CERAMIC CHIP	22PF	5% 50V

Ref. No.	Part No.	Description			Remark
C662	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C663	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C664	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C666	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C667	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C668	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C669	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C670	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C671	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C675	1-163-088-00	CERAMIC CHIP	5PF		50V
C701	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C702	1-163-136-00	CERAMIC CHIP	620PF	5%	50V
C704	1-163-120-00	CERAMIC CHIP	130PF	5%	50V
C705	1-163-122-00	CERAMIC CHIP	160PF	5%	50V
C706	1-163-122-00	CERAMIC CHIP	160PF	5%	50V
C717	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C718	1-135-161-21	TANTALUM CHIP	22uF	10%	6.3V
C720	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C721	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C722	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C723	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C724	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C725	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C726	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C727	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C728	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C729	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C730	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C731	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C732	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C733	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C799	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C801	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C802	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C803	1-135-161-21	TANTALUM CHIP	22uF	10%	6.3V
C804	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C805	1-163-118-00	CERAMIC CHIP	110PF	5%	50V
C806	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C807	1-163-088-00	CERAMIC CHIP	5PF		50V
C808	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C809	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C810	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C811	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C812	1-135-079-21	TANTALUM CHIP	3.3uF	10%	35V
C815	1-135-153-21	TANTALUM CHIP	2.2uF	10%	20V
C816	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C818	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C819	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C825	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C901	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C902	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C903	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C904	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C905	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C906	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C907	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C908	1-163-035-00	CERAMIC CHIP	0.047uF		50V
		< CONNECTOR >			
CN101	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P			
CN102	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P			
CN911	1-506-470-11	CONNECTOR 5P, MALE			
CN912	1-506-472-11	CONNECTOR 7P, MALE			
CN914	1-506-473-11	CONNECTOR 8P, MALE			
		< TRIMMER >			
CV601	1-141-311-11	CAP, TRIMMER	20PF		
		< DIODE >			
D101	8-719-400-18	DIODE	MA152WK		
D102	8-719-400-18	DIODE	MA152WK		
D105	8-719-800-76	DIODE	1SS226		
D106	8-719-400-18	DIODE	MA152WK		
D107	8-719-400-18	DIODE	MA152WK		
D108	8-719-400-18	DIODE	MA152WK		
D109	8-719-400-18	DIODE	MA152WK		
D301	8-719-400-18	DIODE	MA152WK		
D302	8-719-400-18	DIODE	MA152WK		
D401	8-719-400-18	DIODE	MA152WK		
D402	8-719-400-18	DIODE	MA152WK		
D403	8-719-400-18	DIODE	MA152WK		
D404	8-719-400-18	DIODE	MA152WK		
D405	8-719-400-18	DIODE	MA152WK		
D501	8-719-400-18	DIODE	MA152WK		
D601	8-719-800-76	DIODE	1SS226		
D602	8-719-400-18	DIODE	MA152WK		
D603	8-719-400-18	DIODE	MA152WK		
D604	8-719-400-18	DIODE	MA152WK		
D605	8-719-400-18	DIODE	MA152WK		
D801	8-719-400-18	DIODE	MA152WK		
D802	8-719-400-18	DIODE	MA152WK		
D804	8-719-400-18	DIODE	MA152WK		
D821	8-719-400-18	DIODE	MA152WK		
D822	8-719-800-76	DIODE	1SS226		
D823	8-719-800-76	DIODE	1SS226		
D901	8-719-400-18	DIODE	MA152WK		

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Ref. No.	Part No.	Description	Remark
		< DELAY LINE >	
DL501	1-415-517-21	DELAY LINE, DUAL 1H-2H	
DL700	1-415-154-00	DELAY LINE 35nS	
		< FILTER >	
FL301	1-236-370-11	LPF, DEMOD (Y)	
FL401	1-415-761-11	DELAY LINE, LC	
FL402	1-415-760-11	DELAY LINE, LC	
FL801	1-235-632-11	BPF (3.7MHz)	
FL802	1-235-633-11	BPF (5.17MHz)	
		< IC >	
IC101	8-759-233-94	IC TA8607F	
IC102	8-759-925-60	IC BA401	
IC301	8-752-002-99	IC CX20030	
IC401	8-752-031-01	IC CXA1047M	
IC501	8-752-003-12	IC CX20031	
IC601	8-759-924-94	IC CX22021	
IC602	8-752-003-22	IC CX20032	
IC603	8-752-305-47	IC CX23054	
IC604	8-759-009-51	IC MC14538BF	
IC702	8-759-012-00	IC MC10H116M	
IC703	8-752-006-12	IC CX20061	
IC801	8-759-202-67	IC CX20117	
IC901	8-759-925-74	IC SN74HC04ANS	
IC902	8-759-925-74	IC SN74HC04ANS	
		< COIL >	
L101	1-408-974-21	INDUCTOR 22uH	
L102	1-410-167-41	INDUCTOR CHIP 820uH	
L103	1-408-792-00	INDUCTOR CHIP 180uH	
L104	1-408-777-00	INDUCTOR CHIP 10uH	
L105	1-408-770-11	INDUCTOR CHIP 2.7uH	
L106	1-408-775-21	INDUCTOR CHIP 6.8uH	
L107	1-408-775-21	INDUCTOR CHIP 6.8uH	
L108	1-408-780-21	INDUCTOR CHIP 18uH	
L109	1-408-797-11	INDUCTOR CHIP 470uH	
L111	1-408-797-11	INDUCTOR CHIP 470uH	
L112	1-408-797-11	INDUCTOR CHIP 470uH	
L113	1-408-777-00	INDUCTOR CHIP 10uH	
L114	1-408-779-31	INDUCTOR CHIP 15uH	
L115	1-408-780-21	INDUCTOR CHIP 18uH	
L201	1-408-982-11	INDUCTOR 100uH	
L204	1-408-782-11	INDUCTOR CHIP 27uH	
L205	1-408-776-00	INDUCTOR CHIP 8.2uH	
L301	1-408-790-00	INDUCTOR CHIP 120uH	
L302	1-408-789-21	INDUCTOR CHIP 100uH	
L303	1-408-777-00	INDUCTOR CHIP 10uH	
L305	1-408-779-31	INDUCTOR CHIP 15uH	

Ref. No.	Part No.	Description	Remark
L306	1-408-782-11	INDUCTOR CHIP 27uH	
L307	1-408-779-31	INDUCTOR CHIP 15uH	
L308	1-408-783-00	INDUCTOR CHIP 33uH	
L309	1-408-970-21	INDUCTOR 10uH	
L310	1-408-982-11	INDUCTOR 100uH	
L312	1-408-982-11	INDUCTOR 100uH	
L401	1-408-782-11	INDUCTOR CHIP 27uH	
L402	1-408-970-21	INDUCTOR 10uH	
L501	1-408-984-21	INDUCTOR 150uH	
L502	1-408-781-00	INDUCTOR CHIP 22uH	
L503	1-408-765-21	INDUCTOR CHIP 1uH	
L504	1-408-765-21	INDUCTOR CHIP 1uH	
L505	1-408-776-00	INDUCTOR CHIP 8.2uH	
L506	1-408-982-11	INDUCTOR 100uH	
L510	1-408-777-00	INDUCTOR CHIP 10uH	
L601	1-408-982-11	INDUCTOR 100uH	
L602	1-408-792-00	INDUCTOR CHIP 180uH	
L603	1-408-781-00	INDUCTOR CHIP 22uH	
L604	1-408-789-21	INDUCTOR CHIP 100uH	
L605	1-408-790-00	INDUCTOR CHIP 120uH	
L606	1-408-793-21	INDUCTOR CHIP 220uH	
L701	1-408-780-21	INDUCTOR CHIP 18uH	
L702	1-408-795-21	INDUCTOR CHIP 330uH	
L705	1-408-978-21	INDUCTOR 47uH	
L710	1-410-476-11	INDUCTOR 33uH	
L801	1-408-781-00	INDUCTOR CHIP 22uH	
L802	1-408-982-11	INDUCTOR 100uH	
L803	1-408-795-21	INDUCTOR CHIP 330uH	
		< VARIABLE COIL >	
LV501	1-404-594-11	COIL, VARIABLE	
		< TRANSISTOR >	
Q101	8-729-200-86	TRANSISTOR 2SC2714-0	
Q102	8-729-901-04	TRANSISTOR DTA114EK	
Q103	8-729-200-86	TRANSISTOR 2SC2714-0	
Q104	8-729-901-01	TRANSISTOR DTC144EK	
Q105	8-729-904-07	TRANSISTOR FMG2-T-148	
Q107	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q110	8-729-901-01	TRANSISTOR DTC144EK	
Q111	8-729-200-86	TRANSISTOR 2SC2714-0	
Q112	8-729-901-01	TRANSISTOR DTC144EK	
Q113	8-729-200-86	TRANSISTOR 2SC2714-0	
Q116	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q117	8-729-200-86	TRANSISTOR 2SC2714-0	
Q118	8-729-200-86	TRANSISTOR 2SC2714-0	
Q119	8-729-200-86	TRANSISTOR 2SC2714-0	
Q120	8-729-200-86	TRANSISTOR 2SC2714-0	
Q121	8-729-201-27	TRANSISTOR 2SC2715-Y	

Ref. No.	Part No.	Description		Remark
Q122	8-729-901-01	TRANSISTOR	DTC144EK	
Q123	8-729-901-01	TRANSISTOR	DTC144EK	
Q124	8-729-901-06	TRANSISTOR	DTA144EK	
Q125	8-729-901-01	TRANSISTOR	DTC144EK	
Q126	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q127	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q128	8-729-202-38	TRANSISTOR	2SC3326N	
Q129	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q130	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q131	8-729-216-22	TRANSISTOR	2SA1162	
Q132	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q181	8-729-907-46	TRANSISTOR	IMZ1	
Q182	8-729-903-10	TRANSISTOR	FMW1	
Q183	8-729-200-86	TRANSISTOR	2SC2714-O	
Q184	8-729-216-22	TRANSISTOR	2SA1162	
Q209	8-729-200-86	TRANSISTOR	2SC2714-O	
Q210	8-729-200-86	TRANSISTOR	2SC2714-O	
Q211	8-729-200-86	TRANSISTOR	2SC2714-O	
Q212	8-729-901-01	TRANSISTOR	DTC144EK	
Q213	8-729-901-06	TRANSISTOR	DTA144EK	
Q214	8-729-200-86	TRANSISTOR	2SC2714-O	
Q215	8-729-902-96	TRANSISTOR	FMS1	
Q217	8-729-200-86	TRANSISTOR	2SC2714-O	
Q218	8-729-200-86	TRANSISTOR	2SC2714-O	
Q301	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q302	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q305	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q306	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q307	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q309	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q310	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q311	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q312	8-729-901-06	TRANSISTOR	DTA144EK	
Q313	8-729-216-22	TRANSISTOR	2SA1162	
Q314	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q315	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q316	8-729-901-01	TRANSISTOR	DTC144EK	
Q317	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q318	8-729-901-06	TRANSISTOR	DTA144EK	
Q319	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q320	8-729-901-01	TRANSISTOR	DTC144EK	
Q321	8-729-901-01	TRANSISTOR	DTC144EK	
Q322	8-729-216-22	TRANSISTOR	2SA1162	
Q323	8-729-901-01	TRANSISTOR	DTC144EK	
Q324	8-729-901-01	TRANSISTOR	DTC144EK	
Q325	8-729-901-06	TRANSISTOR	DTA144EK	
Q326	8-729-901-06	TRANSISTOR	DTA144EK	
Q327	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q328	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q330	8-729-901-06	TRANSISTOR	DTA144EK	
Q389	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q401	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q402	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q403	8-729-901-01	TRANSISTOR	DTC144EK	
Q404	8-729-901-01	TRANSISTOR	DTC144EK	
Q405	8-729-901-06	TRANSISTOR	DTA144EK	
Q406	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q407	8-729-216-22	TRANSISTOR	2SA1162	
Q408	8-729-216-22	TRANSISTOR	2SA1162	
Q409	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q410	8-729-216-22	TRANSISTOR	2SA1162	
Q411	8-729-901-01	TRANSISTOR	DTC144EK	
Q412	8-729-901-01	TRANSISTOR	DTC144EK	
Q413	8-729-901-01	TRANSISTOR	DTC144EK	
Q414	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q415	8-729-216-22	TRANSISTOR	2SA1162	
Q416	8-729-216-22	TRANSISTOR	2SA1162	
Q417	8-729-901-01	TRANSISTOR	DTC144EK	
Q418	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q419	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q420	8-729-202-38	TRANSISTOR	2SC3326N	
Q421	8-729-202-38	TRANSISTOR	2SC3326N	
Q422	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q423	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q424	8-729-901-01	TRANSISTOR	DTC144EK	
Q425	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q426	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q427	8-729-216-22	TRANSISTOR	2SA1162	
Q428	8-729-216-22	TRANSISTOR	2SA1162	
Q429	8-729-901-01	TRANSISTOR	DTC144EK	
Q430	8-729-901-01	TRANSISTOR	DTC144EK	
Q431	8-729-216-22	TRANSISTOR	2SA1162	
Q501	8-729-901-06	TRANSISTOR	DTA144EK	
Q502	8-729-901-01	TRANSISTOR	DTC144EK	
Q503	8-729-901-00	TRANSISTOR	DTC124EK	
Q504	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q601	8-729-901-01	TRANSISTOR	DTC144EK	
Q603	8-729-901-01	TRANSISTOR	DTC144EK	
Q604	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q605	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q606	8-729-901-01	TRANSISTOR	DTC144EK	
Q607	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q608	8-729-216-22	TRANSISTOR	2SA1162	
Q609	8-729-901-00	TRANSISTOR	DTC124EK	
Q610	8-729-904-04	TRANSISTOR	FMS2-T-149	
Q611	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q612	8-729-201-27	TRANSISTOR	2SC2715-Y	
Q613	8-729-901-01	TRANSISTOR	DTC144EK	

Ref. No.	Part No.	Description	Remark
Q701	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q702	8-729-202-38	TRANSISTOR 2SC3326N	
Q703	8-729-202-38	TRANSISTOR 2SC3326N	
Q704	8-729-216-22	TRANSISTOR 2SA1162	
Q706	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q707	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q710	8-729-901-01	TRANSISTOR DTC144EK	
Q711	8-729-901-01	TRANSISTOR DTC144EK	
Q712	8-729-901-01	TRANSISTOR DTC144EK	
Q720	8-729-200-86	TRANSISTOR 2SC2714-O	
Q721	8-729-200-86	TRANSISTOR 2SC2714-O	
Q722	8-729-200-86	TRANSISTOR 2SC2714-O	
Q723	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q724	8-729-901-01	TRANSISTOR DTC144EK	
Q801	8-729-901-01	TRANSISTOR DTC144EK	
Q802	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q803	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q804	8-729-201-27	TRANSISTOR 2SC2715-Y	
Q805	8-729-216-22	TRANSISTOR 2SA1162	
Q811	8-729-901-01	TRANSISTOR DTC144EK	
Q901	8-729-901-01	TRANSISTOR DTC144EK	
Q902	8-729-901-01	TRANSISTOR DTC144EK	
Q903	8-729-104-25	TRANSISTOR 2SB804-AV	
Q904	8-729-201-27	TRANSISTOR 2SC2715-Y	
		< RESISTOR >	
R101	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R102	1-216-029-00	METAL CHIP 150 5% 1/10W	
R103	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R104	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R105	1-216-037-00	METAL CHIP 330 5% 1/10W	
R106	1-216-041-00	METAL CHIP 470 5% 1/10W	
R107	1-216-035-00	METAL CHIP 270 5% 1/10W	
R108	1-216-043-00	METAL CHIP 560 5% 1/10W	
R109	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R110	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R111	1-216-045-00	METAL CHIP 680 5% 1/10W	
R112	1-216-041-00	METAL CHIP 470 5% 1/10W	
R113	1-216-041-00	METAL CHIP 470 5% 1/10W	
R115	1-216-639-11	METAL CHIP 330 0. 5% 1/10W	
R116	1-216-639-11	METAL CHIP 330 0. 5% 1/10W	
R119	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R120	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R122	1-216-057-00	METAL CHIP 2. 2K 5% 1/10W	
R124	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R125	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R126	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R127	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R128	1-216-041-00	METAL CHIP 470 5% 1/10W	
R130	1-216-033-00	METAL CHIP 220 5% 1/10W	
R137	1-216-033-00	METAL CHIP 220 5% 1/10W	
R139	1-216-295-00	METAL CHIP 0 5% 1/10W	
R140	1-216-053-00	METAL CHIP 1. 5K 5% 1/10W	
R141	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R142	1-216-748-11	METAL CHIP 39K 5% 1/10W	
R143	1-216-039-00	METAL CHIP 390 5% 1/10W	
R144	1-216-045-00	METAL CHIP 680 5% 1/10W	
R145	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R146	1-216-645-11	METAL CHIP 560 0. 5% 1/10W	
R147	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R148	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R149	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R150	1-216-047-00	METAL CHIP 820 5% 1/10W	
R151	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R153	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R154	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R155	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R157	1-216-069-00	METAL CHIP 6. 8K 5% 1/10W	
R158	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R159	1-216-025-00	METAL CHIP 100 5% 1/10W	
R160	1-216-643-11	METAL CHIP 470 0. 5% 1/10W	
R161	1-216-295-00	METAL CHIP 0 5% 1/10W	
R162	1-216-045-00	METAL CHIP 680 5% 1/10W	
R163	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R164	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R165	1-216-069-00	METAL CHIP 6. 8K 5% 1/10W	
R166	1-216-061-00	METAL CHIP 3. 3K 5% 1/10W	
R167	1-216-041-00	METAL CHIP 470 5% 1/10W	
R168	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R169	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R170	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R171	1-216-748-11	METAL CHIP 39K 5% 1/10W	
R173	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R174	1-216-748-11	METAL CHIP 39K 5% 1/10W	
R175	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R176	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R177	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R178	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R179	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R180	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R181	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R182	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R183	1-216-067-00	METAL CHIP 5. 6K 5% 1/10W	
R184	1-216-055-00	METAL CHIP 1. 8K 5% 1/10W	
R185	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R186	1-216-065-00	METAL CHIP 4. 7K 5% 1/10W	
R187	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R189	1-216-077-00	METAL CHIP 15K 5% 1/10W	

Ref. No.	Part No.	Description				Remark
R190	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R191	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R192	1-216-037-00	METAL CHIP	330	5%	1/10W	
R193	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R195	1-216-748-11	METAL CHIP	39K	5%	1/10W	
R196	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R197	1-216-041-00	METAL CHIP	470	5%	1/10W	
R198	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R199	1-216-045-00	METAL CHIP	680	5%	1/10W	
R200	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R201	1-216-641-11	METAL CHIP	390	0.5%	1/10W	
R202	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R213	1-216-035-00	METAL CHIP	270	5%	1/10W	
R214	1-216-041-00	METAL CHIP	470	5%	1/10W	
R215	1-216-041-00	METAL CHIP	470	5%	1/10W	
R216	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R217	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R218	1-216-041-00	METAL CHIP	470	5%	1/10W	
R219	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R220	1-216-041-00	METAL CHIP	470	5%	1/10W	
R221	1-216-041-00	METAL CHIP	470	5%	1/10W	
R222	1-216-295-00	METAL CHIP	0	5%	1/10W	
R223	1-216-041-00	METAL CHIP	470	5%	1/10W	
R224	1-216-041-00	METAL CHIP	470	5%	1/10W	
R225	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R226	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R227	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R228	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R229	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R230	1-216-047-00	METAL CHIP	820	5%	1/10W	
R231	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R232	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R233	1-216-064-00	METAL CHIP	4.3K	5%	1/10W	
R234	1-216-041-00	METAL CHIP	470	5%	1/10W	
R235	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R236	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R237	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R238	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R239	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R240	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R241	1-216-041-00	METAL CHIP	470	5%	1/10W	
R242	1-216-295-00	METAL CHIP	0	5%	1/10W	
R243	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R244	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R245	1-216-043-00	METAL CHIP	560	5%	1/10W	
R247	1-216-041-00	METAL CHIP	470	5%	1/10W	
R252	1-216-047-00	METAL CHIP	820	5%	1/10W	
R301	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R302	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	

Ref. No.	Part No.	Description				Remark
R303	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R304	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R305	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R306	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R307	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R308	1-216-295-00	METAL CHIP	0	5%	1/10W	
R309	1-216-295-00	METAL CHIP	0	5%	1/10W	
R310	1-216-033-00	METAL CHIP	220	5%	1/10W	
R311	1-216-033-00	METAL CHIP	220	5%	1/10W	
R313	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R314	1-216-033-00	METAL CHIP	220	5%	1/10W	
R315	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R316	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R317	1-216-670-11	METAL CHIP	6.2K	0.5%	1/10W	
R318	1-216-033-00	METAL CHIP	220	5%	1/10W	
R320	1-216-033-00	METAL CHIP	220	5%	1/10W	
R321	1-216-032-00	METAL CHIP	200	5%	1/10W	
R323	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R324	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R325	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R326	1-216-033-00	METAL CHIP	220	5%	1/10W	
R327	1-216-033-00	METAL CHIP	220	5%	1/10W	
R329	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R330	1-216-045-00	METAL CHIP	680	5%	1/10W	
R331	1-216-039-00	METAL CHIP	390	5%	1/10W	
R332	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R333	1-216-623-11	METAL CHIP	68	0.5%	1/10W	
R334	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R335	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R336	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R337	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R338	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R339	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R340	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R341	1-216-641-11	METAL CHIP	390	0.5%	1/10W	
R342	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R343	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R344	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R345	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R346	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R347	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R348	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R349	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R350	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R351	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R353	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R354	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R355	1-216-047-00	METAL CHIP	820	5%	1/10W	
R356	1-216-081-00	METAL CHIP	22K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R357	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R358	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R359	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R360	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R361	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R362	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R363	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R364	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R365	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R366	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R367	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R368	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R369	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R370	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R371	1-216-295-00	METAL CHIP	0	5%	1/10W	
R373	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R374	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R376	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R377	1-216-033-00	METAL CHIP	220	5%	1/10W	
R378	1-216-031-00	METAL CHIP	180	5%	1/10W	
R379	1-216-039-00	METAL CHIP	390	5%	1/10W	
R380	1-216-029-00	METAL CHIP	150	5%	1/10W	
R381	1-216-295-00	METAL CHIP	0	5%	1/10W	
R382	1-216-295-00	METAL CHIP	0	5%	1/10W	
R383	1-216-295-00	METAL CHIP	0	5%	1/10W	
R384	1-216-025-00	METAL CHIP	100	5%	1/10W	
R386	1-216-033-00	METAL CHIP	220	5%	1/10W	
R387	1-216-295-00	METAL CHIP	0	5%	1/10W	
R388	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R389	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R390	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R401	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R402	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R403	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R404	1-216-654-11	METAL CHIP	1.3K	0.5%	1/10W	
R405	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R406	1-216-033-00	METAL CHIP	220	5%	1/10W	
R407	1-216-033-00	METAL CHIP	220	5%	1/10W	
R408	1-216-295-00	METAL CHIP	0	5%	1/10W	
R409	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R411	1-216-037-00	METAL CHIP	330	5%	1/10W	
R412	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R413	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R414	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R415	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R416	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R417	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R418	1-216-041-00	METAL CHIP	470	5%	1/10W	
R419	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R420	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R421	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R422	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R423	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R424	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R425	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R426	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R427	1-216-045-00	METAL CHIP	680	5%	1/10W	
R428	1-216-748-11	METAL CHIP	39K	5%	1/10W	
R429	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R430	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R431	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R432	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R433	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R434	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R435	1-216-693-11	METAL CHIP	56K	0.5%	1/10W	
R436	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R437	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R438	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R439	1-216-666-11	METAL CHIP	4.3K	0.5%	1/10W	
R440	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R441	1-216-666-11	METAL CHIP	4.3K	0.5%	1/10W	
R442	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R443	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R444	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R445	1-216-295-00	METAL CHIP	0	5%	1/10W	
R446	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R447	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R448	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R449	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R450	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R451	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R452	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R453	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R454	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R455	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R456	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R457	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R458	1-216-047-00	METAL CHIP	820	5%	1/10W	
R459	1-216-039-00	METAL CHIP	390	5%	1/10W	
R460	1-216-033-00	METAL CHIP	220	5%	1/10W	
R462	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R463	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R464	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R465	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R466	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R467	1-216-641-11	METAL CHIP	390	0.5%	1/10W	
R468	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R469	1-216-089-00	METAL CHIP	47K	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R470	1-216-073-00	METAL CHIP	10K	5%	1/10W
R471	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R472	1-216-041-00	METAL CHIP	470	5%	1/10W
R473	1-216-049-00	METAL CHIP	1K	5%	1/10W
R474	1-216-049-00	METAL CHIP	1K	5%	1/10W
R475	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R476	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R477	1-216-041-00	METAL CHIP	470	5%	1/10W
R478	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R479	1-216-049-00	METAL CHIP	1K	5%	1/10W
R480	1-216-085-00	METAL CHIP	33K	5%	1/10W
R481	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R482	1-216-073-00	METAL CHIP	10K	5%	1/10W
R483	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R484	1-216-075-00	METAL CHIP	12K	5%	1/10W
R485	1-216-295-00	METAL CHIP	0	5%	1/10W
R488	1-216-295-00	METAL CHIP	0	5%	1/10W
R501	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R502	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R503	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R504	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R505	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R506	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R507	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R508	1-216-085-00	METAL CHIP	33K	5%	1/10W
R509	1-216-077-00	METAL CHIP	15K	5%	1/10W
R510	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R511	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R512	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R513	1-216-645-11	METAL CHIP	560	0.5%	1/10W
R514	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R515	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R516	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R517	1-216-641-11	METAL CHIP	390	0.5%	1/10W
R519	1-216-295-00	METAL CHIP	0	5%	1/10W
R520	1-216-035-00	METAL CHIP	270	5%	1/10W
R521	1-216-073-00	METAL CHIP	10K	5%	1/10W
R522	1-216-748-11	METAL CHIP	39K	5%	1/10W
R523	1-216-121-00	METAL CHIP	1M	5%	1/10W
R524	1-216-113-00	METAL CHIP	470K	5%	1/10W
R525	1-216-075-00	METAL CHIP	12K	5%	1/10W
R526	1-216-081-00	METAL CHIP	22K	5%	1/10W
R527	1-216-075-00	METAL CHIP	12K	5%	1/10W
R528	1-216-083-00	METAL CHIP	27K	5%	1/10W
R529	1-216-081-00	METAL CHIP	22K	5%	1/10W
R530	1-216-629-11	METAL CHIP	120	0.5%	1/10W
R531	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R532	1-216-611-11	METAL CHIP	22	0.5%	1/10W
R533	1-216-083-00	METAL CHIP	27K	5%	1/10W
R534	1-216-049-00	METAL CHIP	1K	5%	1/10W
R537	1-216-641-11	METAL CHIP	390	0.5%	1/10W
R538	1-216-083-00	METAL CHIP	27K	5%	1/10W
R539	1-216-081-00	METAL CHIP	22K	5%	1/10W
R540	1-216-295-00	METAL CHIP	0	5%	1/10W
R541	1-216-629-11	METAL CHIP	120	0.5%	1/10W
R542	1-216-637-11	METAL CHIP	270	0.5%	1/10W
R543	1-216-748-11	METAL CHIP	39K	5%	1/10W
R544	1-216-748-11	METAL CHIP	39K	5%	1/10W
R545	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R546	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R601	1-216-073-00	METAL CHIP	10K	5%	1/10W
R602	1-216-077-00	METAL CHIP	15K	5%	1/10W
R603	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R604	1-216-077-00	METAL CHIP	15K	5%	1/10W
R605	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W
R606	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R607	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R609	1-216-103-00	METAL CHIP	180K	5%	1/10W
R610	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R612	1-216-073-00	METAL CHIP	10K	5%	1/10W
R613	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R614	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R616	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R617	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R618	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R619	1-216-089-00	METAL CHIP	47K	5%	1/10W
R620	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R621	1-216-081-00	METAL CHIP	22K	5%	1/10W
R622	1-216-097-00	METAL CHIP	100K	5%	1/10W
R623	1-216-033-00	METAL CHIP	220	5%	1/10W
R624	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R625	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R626	1-216-295-00	METAL CHIP	0	5%	1/10W
R627	1-216-081-00	METAL CHIP	22K	5%	1/10W
R628	1-216-081-00	METAL CHIP	22K	5%	1/10W
R629	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R632	1-216-645-11	METAL CHIP	560	0.5%	1/10W
R633	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R634	1-216-085-00	METAL CHIP	33K	5%	1/10W
R635	1-216-085-00	METAL CHIP	33K	5%	1/10W
R636	1-216-049-00	METAL CHIP	1K	5%	1/10W
R637	1-216-081-00	METAL CHIP	22K	5%	1/10W
R638	1-216-085-00	METAL CHIP	33K	5%	1/10W
R639	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R640	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R641	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R642	1-216-049-00	METAL CHIP	1K	5%	1/10W
R643	1-216-295-00	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description	Remark
R644	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R645	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R646	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R647	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R648	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R649	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R650	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R651	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R652	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R653	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R654	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R655	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R656	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R657	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R658	1-216-039-00	METAL CHIP 390 5% 1/10W	
R659	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R660	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R661	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R662	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R663	1-216-667-11	METAL CHIP 4.7K 0.5% 1/10W	
R664	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
R665	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R666	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R667	1-216-033-00	METAL CHIP 220 5% 1/10W	
R668	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R669	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R670	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R671	1-216-039-00	METAL CHIP 390 5% 1/10W	
R672	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R673	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R674	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R675	1-216-106-00	METAL CHIP 240K 5% 1/10W	
R676	1-216-106-00	METAL CHIP 240K 5% 1/10W	
R677	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R678	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R699	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R701	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R702	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R703	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R704	1-216-645-11	METAL CHIP 560 0.5% 1/10W	
R705	1-216-635-11	METAL CHIP 220 0.5% 1/10W	
R706	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R707	1-216-651-11	METAL CHIP 1K 0.5% 1/10W	
R708	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R709	1-216-673-11	METAL CHIP 8.2K 0.5% 1/10W	
R710	1-216-643-11	METAL CHIP 470 0.5% 1/10W	
R711	1-216-645-11	METAL CHIP 560 0.5% 1/10W	
R728	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R729	1-216-049-00	METAL CHIP 1K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R745	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R746	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R748	1-216-025-00	METAL CHIP 100 5% 1/10W	
R750	1-216-043-00	METAL CHIP 560 5% 1/10W	
R751	1-216-037-00	METAL CHIP 330 5% 1/10W	
R752	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R753	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R754	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R755	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R756	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R757	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R758	1-216-041-00	METAL CHIP 470 5% 1/10W	
R759	1-216-295-00	METAL CHIP 0 5% 1/10W	
R760	1-216-041-00	METAL CHIP 470 5% 1/10W	
R761	1-216-034-00	METAL CHIP 240 5% 1/10W	
R762	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R763	1-216-037-00	METAL CHIP 330 5% 1/10W	
R764	1-216-037-00	METAL CHIP 330 5% 1/10W	
R765	1-216-041-00	METAL CHIP 470 5% 1/10W	
R766	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R767	1-216-041-00	METAL CHIP 470 5% 1/10W	
R768	1-216-041-00	METAL CHIP 470 5% 1/10W	
R770	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R771	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R772	1-216-041-00	METAL CHIP 470 5% 1/10W	
R773	1-216-041-00	METAL CHIP 470 5% 1/10W	
R774	1-216-660-11	METAL CHIP 2.4K 0.5% 1/10W	
R776	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R801	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R802	1-216-041-00	METAL CHIP 470 5% 1/10W	
R803	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R804	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R805	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R806	1-216-043-00	METAL CHIP 560 5% 1/10W	
R807	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R808	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R809	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R810	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R811	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R812	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R813	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R814	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R815	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R816	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R817	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R818	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R819	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R820	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R821	1-216-073-00	METAL CHIP 10K 5% 1/10W	

Ref.No.	Part No.	Description			Remark
R822	1-216-045-00	METAL CHIP	680	5%	1/10W
R823	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R824	1-216-037-00	METAL CHIP	330	5%	1/10W
R825	1-216-049-00	METAL CHIP	1K	5%	1/10W
R826	1-216-081-00	METAL CHIP	22K	5%	1/10W
R827	1-216-079-00	METAL CHIP	18K	5%	1/10W
R828	1-216-045-00	METAL CHIP	680	5%	1/10W
R829	1-216-045-00	METAL CHIP	680	5%	1/10W
R830	1-216-295-00	METAL CHIP	0	5%	1/10W
R831	1-216-049-00	METAL CHIP	1K	5%	1/10W
R837	1-216-073-00	METAL CHIP	10K	5%	1/10W
R901	1-216-049-00	METAL CHIP	1K	5%	1/10W
R902	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R903	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R904	1-216-081-00	METAL CHIP	22K	5%	1/10W
R905	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R907	1-216-041-00	METAL CHIP	470	5%	1/10W
R910	1-216-089-00	METAL CHIP	47K	5%	1/10W
R911	1-216-089-00	METAL CHIP	47K	5%	1/10W
R912	1-216-089-00	METAL CHIP	47K	5%	1/10W
R913	1-216-089-00	METAL CHIP	47K	5%	1/10W
R914	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-230-869-11	RES. ADJ. METAL 4.7K			
RV201	1-230-867-11	RES. ADJ. METAL 1K			
RV202	1-230-868-11	RES. ADJ. METAL 2.2K			
RV301	1-230-869-11	RES. ADJ. METAL 4.7K			
RV302	1-230-870-11	RES. ADJ. METAL 10K			
RV303	1-230-870-11	RES. ADJ. METAL 10K			
RV304	1-230-870-11	RES. ADJ. METAL 10K			
RV305	1-230-875-21	RES. ADJ. METAL 220K			
RV401	1-230-873-11	RES. ADJ. METAL 47K			
RV402	1-230-869-11	RES. ADJ. METAL 4.7K			
RV403	1-230-868-11	RES. ADJ. METAL 2.2K			
RV404	1-230-868-11	RES. ADJ. METAL 2.2K			
RV405	1-230-866-11	RES. ADJ. METAL 470			
RV501	1-230-870-11	RES. ADJ. METAL 10K			
RV502	1-230-870-11	RES. ADJ. METAL 10K			
RV601	1-230-871-11	RES. ADJ. METAL 22K			
RV602	1-230-870-11	RES. ADJ. METAL 10K			
RV700	1-230-868-11	RES. ADJ. METAL 2.2K			
RV801	1-230-873-11	RES. ADJ. METAL 47K			
RV802	1-230-875-21	RES. ADJ. METAL 220K			
		< COIL >			
T101	1-409-466-21	TRAP (1.5/1.7MHz)			
T501	1-235-437-11	BPF, PB C (4.43MHz)			
T601	1-409-396-11	REC C TRAP			

Ref.No.	Part No.	Description	Remark
T602	1-409-394-11	TRAP, CHROMA EMPHASIS (4.43MHz)	
		< CRYSTAL >	
X501	1-567-347-11	OSCILLATOR, CERAMIC (13.301MHz)	
X601	1-567-504-11	OSCILLATOR, CRYSTAL (4.433619MHz)	
X602	1-567-827-11	VIBRATOR, CRYSTAL (5.85938MHz)	

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* A-7062-630-A IF-39 BOARD, COMPLETE
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* 1-533-189-11 HOLDER, FUSE
3-671-893-00 CLAMP (LOW TYPE)

< CAPACITOR >

C001	1-124-234-00	ELECT	22uF	20%	16V
C002	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C003	1-124-234-00	ELECT	22uF	20%	16V
C004	1-124-234-00	ELECT	22uF	20%	16V
C007	1-124-234-00	ELECT	22uF	20%	16V
C009	1-124-584-00	ELECT	100uF	20%	10V
C010	1-124-584-00	ELECT	100uF	20%	10V
C011	1-124-584-00	ELECT	100uF	20%	10V
C012	1-124-584-00	ELECT	100uF	20%	10V
C013	1-124-584-00	ELECT	100uF	20%	10V
C014	1-124-234-00	ELECT	22uF	20%	16V
C015	1-124-234-00	ELECT	22uF	20%	16V
C016	1-124-234-00	ELECT	22uF	20%	16V
C017	1-124-584-00	ELECT	100uF	20%	10V
C018	1-124-234-00	ELECT	22uF	20%	16V
C021	1-124-584-00	ELECT	100uF	20%	10V
C022	1-124-234-00	ELECT	22uF	20%	16V
C023	1-126-162-11	ELECT	3.3uF	20%	50V
C051	1-124-234-00	ELECT	22uF	20%	16V
C052	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C053	1-124-234-00	ELECT	22uF	20%	16V
C054	1-124-234-00	ELECT	22uF	20%	16V
C057	1-124-234-00	ELECT	22uF	20%	16V
C059	1-124-584-00	ELECT	100uF	20%	10V
C060	1-124-584-00	ELECT	100uF	20%	10V
C061	1-124-584-00	ELECT	100uF	20%	10V
C062	1-124-584-00	ELECT	100uF	20%	10V
C063	1-124-584-00	ELECT	100uF	20%	10V
C064	1-124-234-00	ELECT	22uF	20%	16V
C065	1-124-234-00	ELECT	22uF	20%	16V
C066	1-124-234-00	ELECT	22uF	20%	16V
C067	1-124-234-00	ELECT	22uF	20%	16V
C081	1-124-584-00	ELECT	100uF	20%	10V
C082	1-124-234-00	ELECT	22uF	20%	16V

Ref. No.	Part No.	Description			Remark
C083	1-126-162-11	ELECT	3.3uF	20%	50V
C165	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C166	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C167	1-126-162-11	ELECT	3.3uF	20%	50V
C168	1-124-234-00	ELECT	22uF	20%	16V
C169	1-124-472-11	ELECT	470uF	20%	10V
C171	1-124-584-00	ELECT	100uF	20%	10V
C172	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C173	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C301	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C302	1-124-589-11	ELECT	47uF	20%	16V
C303	1-124-589-11	ELECT	47uF	20%	16V
C304	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C305	1-124-584-00	ELECT	100uF	20%	10V
C306	1-124-584-00	ELECT	100uF	20%	10V
C307	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C308	1-124-584-00	ELECT	100uF	20%	10V
C310	1-126-157-11	ELECT	10uF	20%	16V
C311	1-126-157-11	ELECT	10uF	20%	16V
C312	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C313	1-124-584-00	ELECT	100uF	20%	10V
C314	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C315	1-124-584-00	ELECT	100uF	20%	10V
C316	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C317	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C318	1-124-584-00	ELECT	100uF	20%	10V
C319	1-124-584-00	ELECT	100uF	20%	10V
C320	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C321	1-124-584-00	ELECT	100uF	20%	10V
C323	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C324	1-126-176-11	ELECT	220uF	20%	10V
C326	1-124-589-11	ELECT	47uF	20%	16V
C327	1-124-589-11	ELECT	47uF	20%	16V
C328	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C329	1-124-584-00	ELECT	100uF	20%	10V
C332	1-126-176-11	ELECT	220uF	20%	10V
C334	1-124-589-11	ELECT	47uF	20%	16V
C335	1-124-589-11	ELECT	47uF	20%	16V
C336	1-124-584-00	ELECT	100uF	20%	10V
C337	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C338	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C339	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C340	1-124-584-00	ELECT	100uF	20%	10V
C341	1-124-589-11	ELECT	47uF	20%	16V
C342	1-124-589-11	ELECT	47uF	20%	16V
C343	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C344	1-124-584-00	ELECT	100uF	20%	10V
C345	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C346	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C347	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C348	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C349	1-124-584-00	ELECT	100uF	20%	10V
C350	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C351	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C352	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C353	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C354	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C356	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C357	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C358	1-124-584-00	ELECT	100uF	20%	10V
C359	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C360	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C361	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C362	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C363	1-124-584-00	ELECT	100uF	20%	10V
C364	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C365	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C401	1-124-584-00	ELECT	100uF	20%	10V
C403	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C404	1-124-589-11	ELECT	47uF	20%	16V
C405	1-124-589-11	ELECT	47uF	20%	16V
C406	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C407	1-124-589-11	ELECT	47uF	20%	16V
C408	1-124-589-11	ELECT	47uF	20%	16V
C409	1-124-589-11	ELECT	47uF	20%	16V
C410	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C411	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C412	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C413	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C414	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C416	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C417	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C418	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C420	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C421	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C422	1-124-589-11	ELECT	47uF	20%	16V
C423	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C424	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C425	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C426	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C501	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C502	1-124-589-11	ELECT	47uF	20%	16V
C503	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C504	1-124-584-00	ELECT	100uF	20%	10V
C505	1-163-091-00	CERAMIC CHIP	8PF		50V
C506	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C507	1-163-101-00	CERAMIC CHIP	22PF	5%	50V

Ref. No.	Part No.	Description			Remark
C508	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C509	1-124-589-11	ELECT	47uF	20%	16V
C510	1-163-091-00	CERAMIC CHIP	8PF		50V
C511	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C512	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C513	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C514	1-124-589-11	ELECT	47uF	20%	16V
C515	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C516	1-126-157-11	ELECT	10uF	20%	16V
C517	1-124-584-00	ELECT	100uF	20%	10V
C518	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C519	1-163-091-00	CERAMIC CHIP	8PF		50V
C520	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C521	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C522	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C523	1-124-589-11	ELECT	47uF	20%	16V
C524	1-124-589-11	ELECT	47uF	20%	16V
C525	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C526	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C527	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C601	1-124-589-11	ELECT	47uF	20%	16V
C602	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C603	1-124-589-11	ELECT	47uF	20%	16V
C604	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C605	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C606	1-126-157-11	ELECT	10uF	20%	16V
C607	1-126-157-11	ELECT	10uF	20%	16V
C608	1-126-157-11	ELECT	10uF	20%	16V
C609	1-124-584-00	ELECT	100uF	20%	10V
C610	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C611	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C612	1-124-589-11	ELECT	47uF	20%	16V
C613	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C614	1-126-157-11	ELECT	10uF	20%	16V
C615	1-124-589-11	ELECT	47uF	20%	16V
C616	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C617	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C618	1-126-157-11	ELECT	10uF	20%	16V
C619	1-126-157-11	ELECT	10uF	20%	16V
C620	1-126-157-11	ELECT	10uF	20%	16V
C621	1-126-157-11	ELECT	10uF	20%	16V
C622	1-124-234-00	ELECT	22uF	20%	16V
C623	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C624	1-126-157-11	ELECT	10uF	20%	16V
C627	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C628	1-126-157-11	ELECT	10uF	20%	16V
C629	1-126-157-11	ELECT	10uF	20%	16V
C631	1-126-157-11	ELECT	10uF	20%	16V
C632	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C633	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C634	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C701	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C702	1-124-589-11	ELECT	47uF	20%	16V
C703	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C704	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C705	1-124-589-11	ELECT	47uF	20%	16V
C708	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C709	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C710	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C711	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C712	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C713	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C714	1-124-234-00	ELECT	22uF	20%	16V
C715	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C716	1-126-157-11	ELECT	10uF	20%	16V
C719	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C720	1-124-589-11	ELECT	47uF	20%	16V
C721	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C722	1-124-589-11	ELECT	47uF	20%	16V
C723	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C725	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C726	1-124-584-00	ELECT	100uF	20%	10V
C727	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C728	1-124-472-11	ELECT	470uF	20%	10V
C729	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C730	1-126-157-11	ELECT	10uF	20%	16V
C731	1-124-589-11	ELECT	47uF	20%	16V
C732	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C733	1-126-157-11	ELECT	10uF	20%	16V
C734	1-124-589-11	ELECT	47uF	20%	16V
C735	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C736	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C737	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C738	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C739	1-126-157-11	ELECT	10uF	20%	16V
C740	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C741	1-124-234-00	ELECT	22uF	20%	16V
C742	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C744	1-124-589-11	ELECT	47uF	20%	16V
C745	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C746	1-126-157-11	ELECT	10uF	20%	16V
C747	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C748	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C749	1-126-157-11	ELECT	10uF	20%	16V
C750	1-126-157-11	ELECT	10uF	20%	16V
C752	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C753	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C758	1-124-584-00	ELECT	100uF	20%	10V

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Ref. No.	Part No.	Description			Remark
C801	1-126-163-11	ELECT	0.68uF	20%	50V
C802	1-126-163-11	ELECT	0.68uF	20%	50V
C803	1-124-584-00	ELECT	100uF	20%	10V
C804	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C805	1-126-163-11	ELECT	0.68uF	20%	50V
C806	1-124-584-00	ELECT	100uF	20%	10V
C807	1-124-584-00	ELECT	100uF	20%	10V
C808	1-126-163-11	ELECT	0.68uF	20%	50V
C809	1-126-163-11	ELECT	0.68uF	20%	50V
C810	1-126-163-11	ELECT	0.68uF	20%	50V
C811	1-124-584-00	ELECT	100uF	20%	10V
C812	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C813	1-126-163-11	ELECT	0.68uF	20%	50V
C814	1-124-584-00	ELECT	100uF	20%	10V
C815	1-124-584-00	ELECT	100uF	20%	10V
C816	1-126-163-11	ELECT	0.68uF	20%	50V
C817	1-124-584-00	ELECT	100uF	20%	10V
C901	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C902	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C903	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C904	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C905	1-124-465-00	ELECT	0.47uF	20%	50V
C906	1-126-162-11	ELECT	3.3uF	20%	50V
C907	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C908	1-124-589-11	ELECT	47uF	20%	16V
C909	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C910	1-126-157-11	ELECT	10uF	20%	16V
C911	1-126-157-11	ELECT	10uF	20%	16V
		< CONNECTOR >			
CN001	1-506-475-11	CONNECTOR 10P, MALE			
CN002	1-506-471-11	CONNECTOR 6P, MALE			
CN004	1-506-470-11	CONNECTOR 5P, MALE			
CN005	1-506-473-11	CONNECTOR 8P, MALE			
CN006	1-506-471-11	CONNECTOR 6P, MALE			
CN007	1-506-474-11	CONNECTOR 9P, MALE			
CN008	1-506-471-11	CONNECTOR 6P, MALE			
CN101	* 1-560-900-00	PIN, CONNECTOR 12P			
CN102	1-506-477-11	CONNECTOR 12P, MALE			
CN103	1-506-468-11	CONNECTOR 3P, MALE			
CN104	1-506-472-11	CONNECTOR 7P, MALE			
CN901	1-506-470-11	CONNECTOR 5P, MALE			
CN902	1-506-472-11	CONNECTOR 7P, MALE			
CN903	1-506-473-11	CONNECTOR 8P, MALE			
CN904	1-506-470-11	CONNECTOR 5P, MALE			
CN905	1-506-473-11	CONNECTOR 8P, MALE			
CN906	1-506-472-11	CONNECTOR 7P, MALE			
CN911	1-506-467-11	CONNECTOR 2P, MALE			

Ref. No.	Part No.	Description		Remark
		< DIODE >		
D001	8-719-104-34	DIODE	1S2836	
D002	8-719-104-34	DIODE	1S2836	
D003	8-719-104-34	DIODE	1S2836	
D004	8-719-104-34	DIODE	1S2836	
D010	8-719-800-76	DIODE	1SS226	
D051	8-719-104-34	DIODE	1S2836	
D052	8-719-104-34	DIODE	1S2836	
D053	8-719-104-34	DIODE	1S2836	
D054	8-719-104-34	DIODE	1S2836	
D060	8-719-800-76	DIODE	1SS226	
D165	8-719-400-18	DIODE	MA152WK	
D166	8-719-400-18	DIODE	MA152WK	
D167	8-719-800-76	DIODE	1SS226	
D168	8-719-800-76	DIODE	1SS226	
D169	8-719-800-76	DIODE	1SS226	
D170	8-719-800-76	DIODE	1SS226	
D171	8-719-104-34	DIODE	1S2836	
D301	8-719-400-18	DIODE	MA152WK	
D901	8-719-400-18	DIODE	MA152WK	
D902	8-719-400-18	DIODE	MA152WK	
D903	8-719-104-34	DIODE	1S2836	
D904	8-719-400-18	DIODE	MA152WK	
		< HOURS METER >		
FC901	1-548-119-21	HOURS METER		
		< FILTER >		
FL301	1-409-470-11	FILTER, TRAP		
FL302	1-415-719-11	DELAY LINE		
FL303	1-236-564-11	FILTER, LOW PASS		
FL304	1-235-779-11	LPF		
FL305	1-236-835-11	FILTER, BAND PASS		
FL501	1-415-637-11	DL (LC) (150NS)		
FL502	1-415-637-11	DL (LC) (150NS)		
FL503	1-415-637-11	DL (LC) (150NS)		
FL701	1-415-821-11	DELAY LINE, LC (113NS)		
FL702	1-415-821-11	DELAY LINE, LC (113NS)		
FL703	1-415-821-11	DELAY LINE, LC (113NS)		
FL704	1-415-551-11	DELAY LINE (140NS)		
FL705	1-235-617-11	FILTER, LOW-PASS (1MHz)		
		< IC >		
IC001	8-759-981-92	IC	RC4558M	
IC003	8-759-981-92	IC	RC4558M	
IC004	8-759-981-92	IC	RC4558M	
IC005	8-759-932-64	IC	BU4052BF	
IC006	8-759-981-92	IC	RC4558M	

Ref. No.	Part No.	Description	Remark
IC051	8-759-981-92	IC RC4558M	
IC054	8-759-981-92	IC RC4558M	
IC055	8-759-932-64	IC BU4052BF	
IC056	8-759-981-92	IC RC4558M	
IC165	8-759-200-67	IC TC4001BF	
IC301	8-759-710-86	IC NJM2233BM	
IC302	8-759-711-32	IC NJM2245M	
IC303	8-759-711-32	IC NJM2245M	
IC304	8-759-710-86	IC NJM2233BM	
IC401	8-759-710-07	IC NJM2234M	
IC402	8-759-710-07	IC NJM2234M	
IC601	8-759-200-60	IC TA7060AP	
IC602	8-759-200-60	IC TA7060AP	
IC603	8-759-400-06	IC AN608P	
IC701	8-759-200-60	IC TA7060AP	
IC702	8-759-402-33	IC AN607P	
IC703	8-752-201-30	IC CX22013	
IC704	8-759-969-13	IC SN16913P	
IC705	8-759-101-12	IC uPC311G2	
IC801	8-752-009-51	IC CX20095A	
IC802	8-752-009-51	IC CX20095A	
IC901	8-759-009-10	IC MC14069UBF	
IC902	8-759-009-10	IC MC14069UBF	
IC903	8-759-100-93	IC uPC393G2	
		< COIL >	
L301	1-408-978-21	INDUCTOR 47uH	
L302	1-408-979-21	INDUCTOR 56uH	
L303	1-408-979-21	INDUCTOR 56uH	
L304	1-408-975-21	INDUCTOR 27uH	
L305	1-408-979-21	INDUCTOR 56uH	
L307	1-408-979-21	INDUCTOR 56uH	
L308	1-408-981-21	INDUCTOR 82uH	
L309	1-408-968-21	INDUCTOR 6.8uH	
L310	1-408-979-21	INDUCTOR 56uH	
L401	1-408-979-21	INDUCTOR 56uH	
L402	1-408-979-21	INDUCTOR 56uH	
L501	1-408-962-21	INDUCTOR 2.2uH	
L502	1-408-962-21	INDUCTOR 2.2uH	
L503	1-408-962-21	INDUCTOR 2.2uH	
L505	1-408-979-21	INDUCTOR 56uH	
L506	1-408-979-21	INDUCTOR 56uH	
L601	1-408-989-21	INDUCTOR 470uH	
L602	1-408-979-21	INDUCTOR 56uH	
L603	1-410-071-11	INDUCTOR 10mH	
L701	1-408-979-21	INDUCTOR 56uH	
L702	1-408-979-21	INDUCTOR 56uH	
L706	1-408-979-21	INDUCTOR 56uH	
L707	1-408-964-21	INDUCTOR 3.3uH	
L708	1-408-979-21	INDUCTOR 56uH	
L709	1-408-979-21	INDUCTOR 56uH	
L801	1-408-979-21	INDUCTOR 56uH	
L802	1-408-979-21	INDUCTOR 56uH	
		< IC LINK >	
PS101 ⚠	1-532-840-21	LINK, IC	
PS102 ⚠	1-532-838-21	LINK, IC	
PS103 ⚠	1-532-836-21	LINK, IC	
PS104 ⚠	1-532-839-11	LINK, IC	
PS105 ⚠	1-532-839-11	LINK, IC	
PS106 ⚠	1-532-836-21	LINK, IC	
PS107 ⚠	1-532-838-21	LINK, IC	
PS108 ⚠	1-532-836-21	LINK, IC	
PS109 ⚠	1-532-836-21	LINK, IC	
		< TRANSISTOR >	
Q001	8-729-202-38	TRANSISTOR 2SC3326N	
Q002	8-729-202-38	TRANSISTOR 2SC3326N	
Q003	8-729-202-38	TRANSISTOR 2SC3326N	
Q004	8-729-202-38	TRANSISTOR 2SC3326N	
Q005	8-729-202-38	TRANSISTOR 2SC3326N	
Q006	8-729-202-38	TRANSISTOR 2SC3326N	
Q007	8-729-202-38	TRANSISTOR 2SC3326N	
Q008	8-729-202-38	TRANSISTOR 2SC3326N	
Q010	8-729-140-75	TRANSISTOR 2SD999	
Q011	8-729-901-06	TRANSISTOR DTA144EK	
Q051	8-729-202-38	TRANSISTOR 2SC3326N	
Q052	8-729-202-38	TRANSISTOR 2SC3326N	
Q053	8-729-202-38	TRANSISTOR 2SC3326N	
Q054	8-729-202-38	TRANSISTOR 2SC3326N	
Q055	8-729-202-38	TRANSISTOR 2SC3326N	
Q056	8-729-202-38	TRANSISTOR 2SC3326N	
Q057	8-729-202-38	TRANSISTOR 2SC3326N	
Q060	8-729-101-07	TRANSISTOR 2SB798-DL	
Q061	8-729-901-01	TRANSISTOR DTC144EK	
Q165	8-729-901-06	TRANSISTOR DTA144EK	
Q166	8-729-901-01	TRANSISTOR DTC144EK	
Q167	8-729-100-66	TRANSISTOR 2SC1623	
Q168	8-729-901-06	TRANSISTOR DTA144EK	
Q169	8-729-901-06	TRANSISTOR DTA144EK	
Q170	8-729-901-06	TRANSISTOR DTA144EK	
Q171	8-729-901-06	TRANSISTOR DTA144EK	
Q172	8-729-100-66	TRANSISTOR 2SC1623	
Q174	8-729-901-06	TRANSISTOR DTA144EK	
Q175	8-729-901-06	TRANSISTOR DTA144EK	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
Q176	8-729-901-06	TRANSISTOR DTA144EK	
Q177	8-729-901-06	TRANSISTOR DTA144EK	
Q178	8-729-901-01	TRANSISTOR DTC144EK	
Q179	8-729-901-06	TRANSISTOR DTA144EK	
Q180	8-729-901-01	TRANSISTOR DTC144EK	
Q181	8-729-901-01	TRANSISTOR DTC144EK	
Q182	8-729-216-22	TRANSISTOR 2SA1162	
Q183	8-729-901-01	TRANSISTOR DTC144EK	
Q184	8-729-901-01	TRANSISTOR DTC144EK	
Q186	8-729-901-06	TRANSISTOR DTA144EK	
Q188	8-729-901-06	TRANSISTOR DTA144EK	
Q191	8-729-216-22	TRANSISTOR 2SA1162	
Q301	8-729-100-66	TRANSISTOR 2SC1623	
Q302	8-729-100-66	TRANSISTOR 2SC1623	
Q303	8-729-100-66	TRANSISTOR 2SC1623	
Q304	8-729-100-66	TRANSISTOR 2SC1623	
Q305	8-729-100-66	TRANSISTOR 2SC1623	
Q306	8-729-100-66	TRANSISTOR 2SC1623	
Q307	8-729-100-66	TRANSISTOR 2SC1623	
Q308	8-729-100-66	TRANSISTOR 2SC1623	
Q309	8-729-100-66	TRANSISTOR 2SC1623	
Q310	8-729-100-66	TRANSISTOR 2SC1623	
Q311	8-729-100-66	TRANSISTOR 2SC1623	
Q312	8-729-100-66	TRANSISTOR 2SC1623	
Q313	8-729-100-66	TRANSISTOR 2SC1623	
Q314	8-729-100-66	TRANSISTOR 2SC1623	
Q315	8-729-100-66	TRANSISTOR 2SC1623	
Q316	8-729-100-66	TRANSISTOR 2SC1623	
Q317	8-729-100-66	TRANSISTOR 2SC1623	
Q318	8-729-100-66	TRANSISTOR 2SC1623	
Q319	8-729-100-66	TRANSISTOR 2SC1623	
Q320	8-729-100-66	TRANSISTOR 2SC1623	
Q321	8-729-100-66	TRANSISTOR 2SC1623	
Q401	8-729-100-66	TRANSISTOR 2SC1623	
Q402	8-729-100-66	TRANSISTOR 2SC1623	
Q403	8-729-100-66	TRANSISTOR 2SC1623	
Q404	8-729-100-66	TRANSISTOR 2SC1623	
Q405	8-729-100-66	TRANSISTOR 2SC1623	
Q406	8-729-100-66	TRANSISTOR 2SC1623	
Q407	8-729-100-66	TRANSISTOR 2SC1623	
Q408	8-729-100-66	TRANSISTOR 2SC1623	
Q409	8-729-100-66	TRANSISTOR 2SC1623	
Q410	8-729-100-66	TRANSISTOR 2SC1623	
Q411	8-729-100-66	TRANSISTOR 2SC1623	
Q412	8-729-100-66	TRANSISTOR 2SC1623	
Q413	8-729-100-66	TRANSISTOR 2SC1623	
Q414	8-729-100-66	TRANSISTOR 2SC1623	
Q501	8-729-100-66	TRANSISTOR 2SC1623	
Q502	8-729-100-66	TRANSISTOR 2SC1623	
Q503	8-729-901-06	TRANSISTOR DTA144EK	
Q504	8-729-100-66	TRANSISTOR 2SC1623	
Q505	8-729-100-66	TRANSISTOR 2SC1623	
Q506	8-729-100-66	TRANSISTOR 2SC1623	
Q507	8-729-901-06	TRANSISTOR DTA144EK	
Q508	8-729-100-66	TRANSISTOR 2SC1623	
Q509	8-729-100-66	TRANSISTOR 2SC1623	
Q510	8-729-100-66	TRANSISTOR 2SC1623	
Q511	8-729-100-66	TRANSISTOR 2SC1623	
Q512	8-729-100-66	TRANSISTOR 2SC1623	
Q513	8-729-100-66	TRANSISTOR 2SC1623	
Q514	8-729-100-66	TRANSISTOR 2SC1623	
Q515	8-729-100-66	TRANSISTOR 2SC1623	
Q516	8-729-100-66	TRANSISTOR 2SC1623	
Q517	8-729-901-06	TRANSISTOR DTA144EK	
Q518	8-729-100-66	TRANSISTOR 2SC1623	
Q519	8-729-100-66	TRANSISTOR 2SC1623	
Q520	8-729-901-06	TRANSISTOR DTA144EK	
Q521	8-729-901-06	TRANSISTOR DTA144EK	
Q601	8-729-100-66	TRANSISTOR 2SC1623	
Q602	8-729-901-01	TRANSISTOR DTC144EK	
Q603	8-729-100-66	TRANSISTOR 2SC1623	
Q604	8-729-100-66	TRANSISTOR 2SC1623	
Q605	8-729-100-66	TRANSISTOR 2SC1623	
Q606	8-729-100-66	TRANSISTOR 2SC1623	
Q607	8-729-100-66	TRANSISTOR 2SC1623	
Q608	8-729-100-66	TRANSISTOR 2SC1623	
Q609	8-729-100-66	TRANSISTOR 2SC1623	
Q610	8-729-100-66	TRANSISTOR 2SC1623	
Q611	8-729-100-66	TRANSISTOR 2SC1623	
Q612	8-729-901-06	TRANSISTOR DTA144EK	
Q613	8-729-901-01	TRANSISTOR DTC144EK	
Q614	8-729-901-01	TRANSISTOR DTC144EK	
Q615	8-729-901-06	TRANSISTOR DTA144EK	
Q616	8-729-901-06	TRANSISTOR DTA144EK	
Q701	8-729-100-66	TRANSISTOR 2SC1623	
Q702	8-729-100-66	TRANSISTOR 2SC1623	
Q703	8-729-202-38	TRANSISTOR 2SC3326N	
Q704	8-729-100-66	TRANSISTOR 2SC1623	
Q705	8-729-100-66	TRANSISTOR 2SC1623	
Q706	8-729-100-66	TRANSISTOR 2SC1623	
Q707	8-729-100-66	TRANSISTOR 2SC1623	
Q708	8-729-100-66	TRANSISTOR 2SC1623	
Q709	8-729-100-66	TRANSISTOR 2SC1623	
Q710	8-729-100-66	TRANSISTOR 2SC1623	
Q711	8-729-100-66	TRANSISTOR 2SC1623	
Q712	8-729-100-66	TRANSISTOR 2SC1623	
Q713	8-729-100-66	TRANSISTOR 2SC1623	

Ref. No.	Part No.	Description			Remark
Q714	8-729-100-66	TRANSISTOR	2SC1623		
Q715	8-729-100-66	TRANSISTOR	2SC1623		
Q716	8-729-100-66	TRANSISTOR	2SC1623		
Q717	8-729-100-66	TRANSISTOR	2SC1623		
Q718	8-729-100-66	TRANSISTOR	2SC1623		
Q719	8-729-100-66	TRANSISTOR	2SC1623		
Q720	8-729-100-66	TRANSISTOR	2SC1623		
Q721	8-729-320-17	TRANSISTOR	2SA1122-CD		
Q722	8-729-100-66	TRANSISTOR	2SC1623		
Q901	8-729-901-01	TRANSISTOR	DTC144EK		
Q902	8-729-901-01	TRANSISTOR	DTC144EK		
Q903	8-729-901-01	TRANSISTOR	DTC144EK		
Q904	8-729-901-01	TRANSISTOR	DTC144EK		
Q905	8-729-901-05	TRANSISTOR	DTA124EK		
Q906	8-729-100-66	TRANSISTOR	2SC1623		
Q907	8-729-100-66	TRANSISTOR	2SC1623		
Q908	8-729-100-66	TRANSISTOR	2SC1623		
Q909	8-729-100-66	TRANSISTOR	2SC1623		
Q910	8-729-100-66	TRANSISTOR	2SC1623		
Q911	8-729-901-06	TRANSISTOR	DTA144EK		
		< RESISTOR >			
R001	1-216-113-00	METAL CHIP	470K	5%	1/10W
R002	1-216-091-00	METAL CHIP	56K	5%	1/10W
R003	1-216-095-00	METAL CHIP	82K	5%	1/10W
R005	1-216-748-11	METAL CHIP	39K	5%	1/10W
R018	1-216-049-00	METAL CHIP	1K	5%	1/10W
R019	1-216-089-00	METAL CHIP	47K	5%	1/10W
R020	1-216-079-00	METAL CHIP	18K	5%	1/10W
R021	1-216-086-00	METAL GLAZE	36K	5%	1/10W
R022	1-216-083-00	METAL CHIP	27K	5%	1/10W
R023	1-216-073-00	METAL CHIP	10K	5%	1/10W
R024	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R025	1-216-295-00	METAL CHIP	0	5%	1/10W
R026	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R027	1-216-089-00	METAL CHIP	47K	5%	1/10W
R028	1-216-073-00	METAL CHIP	10K	5%	1/10W
R029	1-216-073-00	METAL CHIP	10K	5%	1/10W
R030	1-216-095-00	METAL CHIP	82K	5%	1/10W
R031	1-216-073-00	METAL CHIP	10K	5%	1/10W
R032	1-216-091-00	METAL CHIP	56K	5%	1/10W
R033	1-216-049-00	METAL CHIP	1K	5%	1/10W
R034	1-216-094-00	METAL GLAZE	75K	5%	1/10W
R035	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R036	1-216-093-00	METAL CHIP	68K	5%	1/10W
R038	1-216-049-00	METAL CHIP	1K	5%	1/10W
R039	1-216-073-00	METAL CHIP	10K	5%	1/10W
R040	1-216-065-00	METAL CHIP	4.7K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R041	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R042	1-216-113-00	METAL CHIP	470K	5%	1/10W
R043	1-216-075-00	METAL CHIP	12K	5%	1/10W
R044	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R045	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R046	1-216-073-00	METAL CHIP	10K	5%	1/10W
R051	1-216-113-00	METAL CHIP	470K	5%	1/10W
R052	1-216-091-00	METAL CHIP	56K	5%	1/10W
R053	1-216-095-00	METAL CHIP	82K	5%	1/10W
R055	1-216-748-11	METAL CHIP	39K	5%	1/10W
R068	1-216-049-00	METAL CHIP	1K	5%	1/10W
R069	1-216-089-00	METAL CHIP	47K	5%	1/10W
R070	1-216-079-00	METAL CHIP	18K	5%	1/10W
R071	1-216-086-00	METAL GLAZE	36K	5%	1/10W
R072	1-216-083-00	METAL CHIP	27K	5%	1/10W
R073	1-216-073-00	METAL CHIP	10K	5%	1/10W
R074	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R075	1-216-295-00	METAL CHIP	0	5%	1/10W
R076	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R077	1-216-089-00	METAL CHIP	47K	5%	1/10W
R078	1-216-073-00	METAL CHIP	10K	5%	1/10W
R079	1-216-073-00	METAL CHIP	10K	5%	1/10W
R080	1-216-095-00	METAL CHIP	82K	5%	1/10W
R081	1-216-073-00	METAL CHIP	10K	5%	1/10W
R082	1-216-091-00	METAL CHIP	56K	5%	1/10W
R083	1-216-049-00	METAL CHIP	1K	5%	1/10W
R084	1-216-094-00	METAL GLAZE	75K	5%	1/10W
R085	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R086	1-216-093-00	METAL CHIP	68K	5%	1/10W
R088	1-216-049-00	METAL CHIP	1K	5%	1/10W
R089	1-216-073-00	METAL CHIP	10K	5%	1/10W
R090	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R091	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R092	1-216-113-00	METAL CHIP	470K	5%	1/10W
R093	1-216-091-00	METAL CHIP	56K	5%	1/10W
R094	1-216-091-00	METAL CHIP	56K	5%	1/10W
R095	1-216-083-00	METAL CHIP	27K	5%	1/10W
R104	1-216-097-00	METAL CHIP	100K	5%	1/10W
R106	1-216-295-00	METAL CHIP	0	5%	1/10W
R109	1-216-089-00	METAL CHIP	47K	5%	1/10W
R110	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R111	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R112	1-216-093-00	METAL CHIP	68K	5%	1/10W
R113	1-216-295-00	METAL CHIP	0	5%	1/10W
R115	1-216-049-00	METAL CHIP	1K	5%	1/10W
R116	1-216-089-00	METAL CHIP	47K	5%	1/10W
R118	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R119	1-216-077-00	METAL CHIP	15K	5%	1/10W
R120	1-216-071-00	METAL CHIP	8.2K	5%	1/10W

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Ref. No.	Part No.	Description				Remark
R121	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R122	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R125	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R126	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R127	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R128	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R129	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R130	1-216-295-00	METAL CHIP	0	5%	1/10W	
R134	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R136	1-216-295-00	METAL CHIP	0	5%	1/10W	
R139	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R140	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R141	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R142	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R143	1-216-295-00	METAL CHIP	0	5%	1/10W	
R145	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R146	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R148	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R149	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R150	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R151	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R152	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R153	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R155	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R156	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R157	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R160	1-216-295-00	METAL CHIP	0	5%	1/10W	
R165	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R166	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R167	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R168	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R169	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R170	1-216-025-00	METAL CHIP	100	5%	1/10W	
R171	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R172	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R173	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R174	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R175	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R176	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R177	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R178	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R179	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R180	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R181	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R182	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R183	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R184	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R185	1-216-105-00	METAL CHIP	220K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R186	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R187	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R188	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R189	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R190	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R192	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R193	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R301	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R302	1-216-031-00	METAL CHIP	180	5%	1/10W	
R303	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R304	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R305	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R306	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R307	1-216-033-00	METAL CHIP	220	5%	1/10W	
R308	1-216-644-11	METAL CHIP	510	0.5%	1/10W	
R309	1-216-295-00	METAL CHIP	0	5%	1/10W	
R310	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R311	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R312	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R315	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R316	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R317	1-216-652-11	METAL CHIP	1.1K	0.5%	1/10W	
R318	1-216-295-00	METAL CHIP	0	5%	1/10W	
R319	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R320	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R321	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R322	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R323	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R324	1-216-025-00	METAL CHIP	100	5%	1/10W	
R325	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R326	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R327	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R328	1-216-295-00	METAL CHIP	0	5%	1/10W	
R329	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R330	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R331	1-216-652-11	METAL CHIP	1.1K	0.5%	1/10W	
R332	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R333	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R334	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R335	1-216-033-00	METAL CHIP	220	5%	1/10W	
R336	1-216-295-00	METAL CHIP	0	5%	1/10W	
R337	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R338	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R339	1-216-041-00	METAL CHIP	470	5%	1/10W	
R340	1-216-041-00	METAL CHIP	470	5%	1/10W	
R341	1-216-043-00	METAL CHIP	560	5%	1/10W	
R342	1-216-043-00	METAL CHIP	560	5%	1/10W	
R343	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R344	1-216-075-00	METAL CHIP	12K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R345	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R346	1-216-031-00	METAL CHIP	180	5%	1/10W	
R347	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R348	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	
R349	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R350	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R351	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R352	1-216-033-00	METAL CHIP	220	5%	1/10W	
R354	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R355	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R356	1-216-041-00	METAL CHIP	470	5%	1/10W	
R357	1-216-041-00	METAL CHIP	470	5%	1/10W	
R358	1-216-042-00	METAL CHIP	510	5%	1/10W	
R359	1-216-043-00	METAL CHIP	560	5%	1/10W	
R360	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R361	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R362	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R363	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R364	1-216-025-00	METAL CHIP	100	5%	1/10W	
R365	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R366	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R367	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R368	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R369	1-216-031-00	METAL CHIP	180	5%	1/10W	
R370	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R371	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R372	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R373	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R374	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R375	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R376	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R377	1-216-043-00	METAL CHIP	560	5%	1/10W	
R378	1-216-043-00	METAL CHIP	560	5%	1/10W	
R379	1-216-041-00	METAL CHIP	470	5%	1/10W	
R381	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R382	1-216-295-00	METAL CHIP	0	5%	1/10W	
R383	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R384	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R385	1-216-041-00	METAL CHIP	470	5%	1/10W	
R386	1-216-041-00	METAL CHIP	470	5%	1/10W	
R387	1-216-043-00	METAL CHIP	560	5%	1/10W	
R388	1-216-043-00	METAL CHIP	560	5%	1/10W	
R389	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R390	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R391	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R392	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R393	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R394	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R395	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R396	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R401	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R402	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R403	1-216-029-00	METAL CHIP	150	5%	1/10W	
R404	1-216-649-11	METAL CHIP	820	0.5%	1/10W	
R405	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R406	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R407	1-216-295-00	METAL CHIP	0	5%	1/10W	
R408	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R409	1-216-043-00	METAL CHIP	560	5%	1/10W	
R410	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R411	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R412	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R413	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R414	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R415	1-216-031-00	METAL CHIP	180	5%	1/10W	
R416	1-216-041-00	METAL CHIP	470	5%	1/10W	
R417	1-216-045-00	METAL CHIP	680	5%	1/10W	
R418	1-216-043-00	METAL CHIP	560	5%	1/10W	
R419	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R420	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R421	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R422	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R423	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R424	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R425	1-216-041-00	METAL CHIP	470	5%	1/10W	
R426	1-216-649-11	METAL CHIP	820	0.5%	1/10W	
R427	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R428	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R429	1-216-295-00	METAL CHIP	0	5%	1/10W	
R430	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R431	1-216-043-00	METAL CHIP	560	5%	1/10W	
R432	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R433	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R434	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R435	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R436	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R437	1-216-041-00	METAL CHIP	470	5%	1/10W	
R438	1-216-041-00	METAL CHIP	470	5%	1/10W	
R439	1-216-045-00	METAL CHIP	680	5%	1/10W	
R440	1-216-043-00	METAL CHIP	560	5%	1/10W	
R441	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R442	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R443	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R444	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R501	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R502	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R503	1-216-049-00	METAL CHIP	1K	5%	1/10W	

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Ref. No.	Part No.	Description				Remark
R504	1-218-156-11	METAL GLAZE	8.2K	1%	1/10W	
R505	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R506	1-216-327-11	METAL GLAZE	2K	1%	1/10W	
R507	1-216-327-11	METAL GLAZE	2K	1%	1/10W	
R508	1-216-047-00	METAL CHIP	820	5%	1/10W	
R509	1-216-295-00	METAL CHIP	0	5%	1/10W	
R510	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R511	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R512	1-216-295-00	METAL CHIP	0	5%	1/10W	
R513	1-216-518-00	METAL GLAZE	2.2K	1%	1/10W	
R514	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R515	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R516	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R517	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R518	1-218-156-11	METAL GLAZE	8.2K	1%	1/10W	
R519	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R520	1-216-327-11	METAL GLAZE	2K	1%	1/10W	
R521	1-216-327-11	METAL GLAZE	2K	1%	1/10W	
R522	1-216-047-00	METAL CHIP	820	5%	1/10W	
R523	1-216-295-00	METAL CHIP	0	5%	1/10W	
R524	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R525	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R526	1-216-295-00	METAL CHIP	0	5%	1/10W	
R527	1-216-518-00	METAL GLAZE	2.2K	1%	1/10W	
R528	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R529	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R530	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R531	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R532	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R533	1-216-621-11	METAL CHIP	56	0.50%	1/10W	
R534	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R535	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R536	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R537	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R538	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R539	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R540	1-216-295-00	METAL CHIP	0	5%	1/10W	
R541	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R542	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R543	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R544	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R545	1-216-518-00	METAL GLAZE	2.2K	1%	1/10W	
R546	1-216-518-00	METAL GLAZE	2.2K	1%	1/10W	
R547	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R548	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R549	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R550	1-218-156-11	METAL GLAZE	8.2K	1%	1/10W	
R551	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R552	1-216-327-11	METAL GLAZE	2K	1%	1/10W	
R553	1-216-327-11	METAL GLAZE	2K	1%	1/10W	
R554	1-216-047-00	METAL CHIP	820	5%	1/10W	
R555	1-216-295-00	METAL CHIP	0	5%	1/10W	
R556	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R557	1-216-295-00	METAL CHIP	0	5%	1/10W	
R558	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R559	1-216-518-00	METAL GLAZE	2.2K	1%	1/10W	
R560	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R561	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R562	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R563	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R564	1-216-333-11	METAL CHIP	15K	1%	1/10W	
R601	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R602	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R603	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R605	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R606	1-216-041-00	METAL CHIP	470	5%	1/10W	
R607	1-216-037-00	METAL CHIP	330	5%	1/10W	
R608	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R609	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R610	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R611	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R612	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R613	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R614	1-216-037-00	METAL CHIP	330	5%	1/10W	
R615	1-216-041-00	METAL CHIP	470	5%	1/10W	
R616	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R617	1-216-048-00	METAL CHIP	910	5%	1/10W	
R618	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R619	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R620	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R621	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R622	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R623	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R624	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R625	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R626	1-216-039-00	METAL CHIP	390	5%	1/10W	
R627	1-216-041-00	METAL CHIP	470	5%	1/10W	
R628	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R629	1-216-037-00	METAL CHIP	330	5%	1/10W	
R632	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R633	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R634	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R635	1-216-031-00	METAL CHIP	180	5%	1/10W	
R636	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R637	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R638	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R639	1-216-041-00	METAL CHIP	470	5%	1/10W	
R640	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R641	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R642	1-216-093-00	METAL CHIP	68K	5%	1/10W
R643	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R644	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R645	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R646	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R701	1-216-081-00	METAL CHIP	22K	5%	1/10W
R702	1-216-073-00	METAL CHIP	10K	5%	1/10W
R703	1-216-049-00	METAL CHIP	1K	5%	1/10W
R704	1-216-036-00	METAL CHIP	300	5%	1/10W
R705	1-216-045-00	METAL CHIP	680	5%	1/10W
R706	1-216-049-00	METAL CHIP	1K	5%	1/10W
R707	1-216-041-00	METAL CHIP	470	5%	1/10W
R708	1-216-052-00	METAL CHIP	1.3K	5%	1/10W
R709	1-216-049-00	METAL CHIP	1K	5%	1/10W
R710	1-216-033-00	METAL CHIP	220	5%	1/10W
R711	1-216-049-00	METAL CHIP	1K	5%	1/10W
R712	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R713	1-216-043-00	METAL CHIP	560	5%	1/10W
R714	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R715	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R716	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R717	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R718	1-216-049-00	METAL CHIP	1K	5%	1/10W
R720	1-216-047-00	METAL CHIP	820	5%	1/10W
R721	1-216-295-00	METAL CHIP	0	5%	1/10W
R722	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R723	1-216-295-00	METAL CHIP	0	5%	1/10W
R724	1-216-075-00	METAL CHIP	12K	5%	1/10W
R725	1-216-085-00	METAL CHIP	33K	5%	1/10W
R726	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R727	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R728	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R729	1-216-049-00	METAL CHIP	1K	5%	1/10W
R730	1-216-047-00	METAL CHIP	820	5%	1/10W
R732	1-216-041-00	METAL CHIP	470	5%	1/10W
R733	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R734	1-216-041-00	METAL CHIP	470	5%	1/10W
R735	1-216-295-00	METAL CHIP	0	5%	1/10W
R736	1-216-041-00	METAL CHIP	470	5%	1/10W
R737	1-216-035-00	METAL CHIP	270	5%	1/10W
R738	1-216-049-00	METAL CHIP	1K	5%	1/10W
R739	1-216-049-00	METAL CHIP	1K	5%	1/10W
R740	1-216-295-00	METAL CHIP	0	5%	1/10W
R741	1-216-047-00	METAL CHIP	820	5%	1/10W
R742	1-216-043-00	METAL CHIP	560	5%	1/10W
R743	1-216-049-00	METAL CHIP	1K	5%	1/10W
R744	1-216-081-00	METAL CHIP	22K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R745	1-216-075-00	METAL CHIP	12K	5%	1/10W
R746	1-216-045-00	METAL CHIP	680	5%	1/10W
R747	1-216-043-00	METAL CHIP	560	5%	1/10W
R748	1-216-049-00	METAL CHIP	1K	5%	1/10W
R749	1-216-045-00	METAL CHIP	680	5%	1/10W
R750	1-216-081-00	METAL CHIP	22K	5%	1/10W
R751	1-216-083-00	METAL CHIP	27K	5%	1/10W
R752	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R753	1-216-075-00	METAL CHIP	12K	5%	1/10W
R754	1-216-081-00	METAL CHIP	22K	5%	1/10W
R755	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R756	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R757	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R758	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R759	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R760	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R761	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R762	1-216-081-00	METAL CHIP	22K	5%	1/10W
R763	1-216-073-00	METAL CHIP	10K	5%	1/10W
R764	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R765	1-216-041-00	METAL CHIP	470	5%	1/10W
R767	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R768	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R769	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R770	1-216-073-00	METAL CHIP	10K	5%	1/10W
R771	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R772	1-216-073-00	METAL CHIP	10K	5%	1/10W
R793	1-216-295-00	METAL CHIP	0	5%	1/10W
R795	1-216-025-00	METAL CHIP	100	5%	1/10W
R796	1-216-025-00	METAL CHIP	100	5%	1/10W
R802	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R803	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R804	1-216-022-00	METAL CHIP	75	5%	1/10W
R806	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R807	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R808	1-216-022-00	METAL CHIP	75	5%	1/10W
R809	1-216-295-00	METAL CHIP	0	5%	1/10W
R810	1-216-022-00	METAL CHIP	75	5%	1/10W
R811	1-216-295-00	METAL CHIP	0	5%	1/10W
R812	1-216-022-00	METAL CHIP	75	5%	1/10W
R814	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R815	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R816	1-216-022-00	METAL CHIP	75	5%	1/10W
R818	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R819	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R820	1-216-022-00	METAL CHIP	75	5%	1/10W
R821	1-216-295-00	METAL CHIP	0	5%	1/10W
R822	1-216-022-00	METAL CHIP	75	5%	1/10W
R823	1-216-079-00	METAL CHIP	18K	5%	1/10W

Ref. No.	Part No.	Description	Remark
R824	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R901	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R902	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R903	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R904	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R906	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R907	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R908	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R909	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R910	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R911	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R912	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R913	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R914	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R915	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R916	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R917	1-216-025-00	METAL CHIP 100 5% 1/10W	
R918	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R919	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R920	1-216-031-00	METAL CHIP 180 5% 1/10W	
R921	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R922	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R923	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R924	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R925	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R926	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R927	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R928	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R929	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV401	1-230-519-11	RES, ADJ, METAL 470	
RV402	1-230-519-11	RES, ADJ, METAL 470	
RV601	1-230-520-11	RES, ADJ, METAL 1K	
RV602	1-230-520-11	RES, ADJ, METAL 1K	
RV702	1-230-522-11	RES, ADJ, METAL 4.7K	
RV703	1-230-521-11	RES, ADJ, METAL 2.2K	
RV704	1-230-531-11	RES, ADJ, METAL GLAZE 220	
RV705	1-230-519-11	RES, ADJ, METAL 470	
RV706	1-230-522-11	RES, ADJ, METAL 4.7K	
RV901	1-230-523-11	RES, ADJ, METAL 10K	

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* A-7070-955-A IG-4 BOARD, COMPLETE

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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C024	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C025	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C026	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C027	1-164-232-11	CERAMIC CHIP 0.01uF 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN004	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P	
CN005	1-566-944-11	CONNECTOR, BOARD TO BOARD 22P	
CN006	1-566-945-11	CONNECTOR, BOARD TO BOARD 18P	
CN007	1-566-945-11	CONNECTOR, BOARD TO BOARD 18P	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R044	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R099	1-216-049-00	METAL CHIP 1K 5% 1/10W	

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* 1-633-696-11 JB-4 BOARD

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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C501	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C502	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C503	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C504	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	

< JACK >

Ref. No.	Part No.	Description	Remark
	1-537-137-41	TERMINAL BOARD (VIDEO IN)	

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* 1-633-697-11 JB-5 BOARD

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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C301	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C302	1-124-584-00	ELECT 100uF 20% 10V	
C303	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN301	1-506-470-11	CONNECTOR 5P, MALE	

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D301	8-719-800-76	DIODE 1SS226	
		< JACK >	
J301	1-537-005-21	JACK BOARD (VIDEO, AUDIO, RFU DC OUT)	
		< TRANSISTOR >	
Q301	8-729-216-22	TRANSISTOR 2SA1162	
		< RESISTOR >	
R301	1-216-001-00	METAL CHIP 10 5% 1/10W	
R302	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	

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* A-7070-024-A LD-1 BOARD, COMPLETE

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Ref. No.	Part No.	Description	Remark
		< DIODE >	
D901	8-719-928-54	DIODE GL-450S	

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LS-9 BOARD, COMPLETE

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1-506-485-11 CONNECTOR 6P, MALE

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* A-7061-824-A MB-19 (P) BOARD, COMPLETE

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* 4-911-047-01 VIBRATION CONTROL (D)

Ref. No.	Part No.	Description	Remark
		< CAPACITOR >	
C601	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C602	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C603	1-163-093-00	CERAMIC CHIP 10PF 5% 50V	
C604	1-163-093-00	CERAMIC CHIP 10PF 5% 50V	
C605	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C606	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C607	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C608	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C609	1-124-234-00	ELECT 22uF 20% 16V	
C610	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C641	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C651	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C652	1-124-234-00	ELECT 22uF 20% 16V	
C653	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C661	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C662	1-124-234-00	ELECT 22uF 20% 16V	
C663	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C671	1-124-584-00	ELECT 100uF 20% 10V	
C672	1-135-091-00	TANTAL. CHIP 1uF 20% 16V	
C673	1-124-584-00	ELECT 100uF 20% 10V	
C674	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C675	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	
C676	1-124-584-00	ELECT 100uF 20% 10V	
C677	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C678	1-124-584-00	ELECT 100uF 20% 10V	
C679	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C680	1-135-155-21	TANTALUM CHIP 4.7uF 10% 10V	
C681	1-124-584-00	ELECT 100uF 20% 10V	
C682	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C683	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
		< CONNECTOR >	
CN601	1-566-943-11	CONNECTOR, BOARD TO BOARD 18P	
CN602	1-566-944-11	CONNECTOR, BOARD TO BOARD 22P	
CN603	1-506-467-11	CONNECTOR 2P, MALE	
CN605	1-506-473-11	CONNECTOR 8P, MALE	
CN606	1-506-470-11	CONNECTOR 5P, MALE	
CN923	1-506-474-11	CONNECTOR 9P, MALE	
CN924	1-506-473-11	CONNECTOR 8P, MALE	
		< DIODE >	
D601	8-719-104-34	DIODE 1S2836	
D602	8-719-104-34	DIODE 1S2836	
D603	8-719-104-34	DIODE 1S2836	
D604	8-719-400-18	DIODE MA152WK	
D641	8-719-800-76	DIODE 1SS226	
D642	8-719-800-76	DIODE 1SS226	
		< IC >	
IC601	8-759-149-34	IC uPD75106G-591-1B	
IC603	8-759-208-11	IC TC4053BFHB	
IC651	8-759-603-27	IC M5201FP	
IC661	8-759-603-27	IC M5201FP	
IC671	8-741-150-50	IC SBX1505-01	
		< COIL >	
L601	1-408-970-21	INDUCTOR 10uH	
L602	1-408-970-21	INDUCTOR 10uH	
L603	1-408-970-21	INDUCTOR 10uH	
L604	1-408-948-00	INDUCTOR 220uH	
L605	1-408-948-00	INDUCTOR 220uH	
L641	1-410-393-11	INDUCTOR CHIP 100uH	
L671	1-408-948-00	INDUCTOR 220uH	

MB-19 (P)

Ref.No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q601	8-729-901-06	TRANSISTOR DTA144EK	
Q602	8-729-901-01	TRANSISTOR DTC144EK	
Q603	8-729-901-01	TRANSISTOR DTC144EK	
Q604	8-729-901-01	TRANSISTOR DTC144EK	
Q605	8-729-901-06	TRANSISTOR DTA144EK	
Q606	8-729-901-06	TRANSISTOR DTA144EK	
Q607	8-729-901-01	TRANSISTOR DTC144EK	
Q608	8-729-901-01	TRANSISTOR DTC144EK	
Q609	8-729-901-06	TRANSISTOR DTA144EK	
Q671	8-729-100-66	TRANSISTOR 2SC1623	
		< RESISTOR >	
R601	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R602	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R603	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R604	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R611	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R612	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R613	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R614	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R615	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R616	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R617	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R618	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R619	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R625	1-216-041-00	METAL CHIP 470 5% 1/10W	
R626	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R627	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R628	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R629	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R630	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R631	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R632	1-216-041-00	METAL CHIP 470 5% 1/10W	
R633	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R634	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R635	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R636	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R637	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R638	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R639	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R641	1-216-072-00	METAL CHIP 9.1K 5% 1/10W	
R642	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R643	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R644	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R645	1-216-072-00	METAL CHIP 9.1K 5% 1/10W	
R646	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R647	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R648	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R649	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R651	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R652	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R653	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R654	1-216-047-00	METAL CHIP 820 5% 1/10W	
R655	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R656	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R657	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R661	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R662	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R663	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R664	1-216-047-00	METAL CHIP 820 5% 1/10W	
R665	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R666	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R667	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R671	1-216-295-00	METAL CHIP 0 5% 1/10W	
R672	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R673	1-216-052-00	METAL CHIP 1.3K 5% 1/10W	
R674	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R675	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R676	1-216-045-00	METAL CHIP 680 5% 1/10W	
R677	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R678	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R679	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R680	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R681	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R682	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R683	1-216-089-00	METAL CHIP 47K 5% 1/10W	
		< SWITCH >	
S641	1-554-371-51	SWITCH, TACT (EJECT)	
S642	1-554-371-51	SWITCH, TACT (PB)	
S643	1-554-371-51	SWITCH, TACT (PAUSE)	
S644	1-554-371-51	SWITCH, TACT (REW)	
S645	1-554-371-51	SWITCH, TACT (STOP)	
S646	1-554-371-51	SWITCH, TACT (REC)	
S647	1-554-371-51	SWITCH, TACT (FF)	
S648	1-570-909-21	SWITCH, TACTIL (REFLOW TYPE) (POWER)	
S649	1-554-371-51	SWITCH, TACT (X-1)	
		< FILTER >	
T603	1-235-398-11	BPF	
T651	1-235-900-11	FILTER, LOW PASS	
T661	1-235-900-11	FILTER, LOW PASS	
		< CRYSTAL >	
X601	1-567-121-00	VIBRATOR, CRYSTAL (4.194304MHz)	

Ref. No.	Part No.	Description			Remark
*	A-7062-168-A	MD-23 (P) BOARD, COMPLETE *************************			
	1-625-649-11	FP-84 FLEXIBLE BOARD			
	1-625-650-11	FP-122 FLEXIBLE BOARD			

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C801	1-124-465-00	ELECT	0.47uF	20%	50V
C802	1-124-464-11	ELECT	0.22uF	20%	50V
C803	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C804	1-126-160-11	ELECT	1uF	20%	50V
C805	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C806	1-126-151-11	ELECT, NONPOLAR	4.7uF	20%	16V
C808	1-126-162-11	ELECT	3.3uF	20%	50V
C809	1-124-584-00	ELECT	100uF	20%	10V
C810	1-126-096-11	ELECT	10uF	20%	35V
C811	1-126-096-11	ELECT	10uF	20%	35V
C812	1-126-096-11	ELECT	10uF	20%	35V
C813	1-126-160-11	ELECT	1uF	20%	50V
C814	1-126-160-11	ELECT	1uF	20%	50V
C815	1-126-160-11	ELECT	1uF	20%	50V
C816	1-124-229-00	ELECT	33uF	20%	10V
C817	1-124-229-00	ELECT	33uF	20%	10V
C818	1-124-229-00	ELECT	33uF	20%	10V
C819	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C820	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C821	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C822	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C823	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C824	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C825	1-126-162-11	ELECT	3.3uF	20%	50V
C833	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C834	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C835	1-126-501-11	ELECT	0.15uF	20%	50V
C836	1-164-157-11	CERAMIC CHIP	0.068uF	10%	25V
C837	1-124-464-11	ELECT	0.22uF	20%	50V
C838	1-124-589-11	ELECT	47uF	20%	16V
C839	1-126-529-11	ELECT	0.47uF	20%	50V
C840	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C841	1-124-589-11	ELECT	47uF	20%	16V
C901	1-124-234-00	ELECT	22uF	20%	16V
C902	1-124-234-00	ELECT	22uF	20%	16V
C903	1-124-234-00	ELECT	22uF	20%	16V
C904	1-124-234-00	ELECT	22uF	20%	16V
C905	1-124-257-00	ELECT	2.2uF	20%	50V
C906	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C907	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C908	1-126-096-11	ELECT	10uF	20%	35V
C909	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C910	1-130-491-00	MYLAR	0.047uF	5%	50V
C911	1-130-491-00	MYLAR	0.047uF	5%	50V
C912	1-130-483-00	MYLAR	0.01uF	5%	50V
C913	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C914	1-124-589-11	ELECT	47uF	20%	16V
C915	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C916	1-126-530-11	ELECT	22uF	20%	10V
C917	1-126-530-11	ELECT	22uF	20%	10V
C918	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C919	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C950	1-164-157-11	CERAMIC CHIP	0.068uF	10%	25V
C990	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C991	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C992	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C993	1-164-232-11	CERAMIC CHIP	0.01uF		50V

< CONNECTOR >

Ref. No.		Part No.	Description
CN801		1-506-483-21	CONNECTOR 4P, MALE
CN803		1-506-481-11	CONNECTOR 2P, MALE
CN804		1-506-484-11	CONNECTOR 5P, MALE
CN805		1-506-469-11	CONNECTOR 4P, MALE
CN806		1-506-469-11	CONNECTOR 4P, MALE
CN807		1-566-527-11	CONNECTOR, FPC (ZIF) 11P
CN808		1-566-531-11	CONNECTOR, FPC (ZIF) 15P
CN809		1-566-945-11	CONNECTOR, BOARD TO BOARD 18P
CN810		1-566-946-11	CONNECTOR, BOARD TO BOARD 22P
CN811	*	1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)
CN812		1-566-942-11	CONNECTOR, HINGE (RECEPTACLE) 31P
CN814	*	1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)

< DIODE >

Ref. No.	Part No.	Description	
D803	8-719-200-27	DIODE	E10DS2
D803	8-719-200-27	DIODE	MA152WK
D810	8-719-400-18	DIODE	E10DS2
D811	8-719-200-27	DIODE	MA152WK
D901	8-719-400-18	DIODE	MA152WK
D902	8-719-400-18	DIODE	MA152WK
D903	8-719-400-18	DIODE	1SS226
D904	8-719-800-76	DIODE	MA152WK
D905	8-719-400-18	DIODE	MA152WK

< IC >

Ref. No.	Part No.	Description	
IC801	8-752-037-08	IC	CXA1109M
IC802	8-759-802-79	IC	LB1616M
IC804	8-759-981-82	IC	RC3414M
IC805	8-759-100-93	IC	uPC393G2
IC806	8-759-207-00	IC	TA7733F
IC807	8-759-107-68	IC	CX20115A

Ref. No.	Part No.	Description	Remark
IC808	8-759-700-62	IC NJM4562D	
IC809	8-759-100-94	IC uPC358G2	
IC901	8-759-207-50	IC TA7745F	
IC902	8-759-150-05	IC uPC324G2	
IC903	8-759-925-66	IC BA6303F	
IC904	8-759-008-67	IC MC14066BF	
		< COIL >	
L990	1-408-793-21	INDUCTOR, CHIP 220uH	
L991	1-408-777-00	INDUCTOR, CHIP 10uH	
		< IC LINK >	
PS801 ⚠	1-532-685-00	LINK, IC	
		< TRANSISTOR >	
Q806	8-729-111-14	TRANSISTOR 2SA1385-Z-L	
Q807	8-729-901-06	TRANSISTOR DTA144EK	
Q809	8-729-111-95	TRANSISTOR 2SC3518	
Q810	8-729-805-25	TRANSISTOR 2SB1121	
Q811	8-729-805-25	TRANSISTOR 2SB1121	
Q812	8-729-111-14	TRANSISTOR 2SA1385-Z-L	
Q813	8-729-100-66	TRANSISTOR 2SC1623	
Q820	8-729-111-95	TRANSISTOR 2SC3518	
Q821	8-729-100-66	TRANSISTOR 2SC1623	
Q880	8-729-100-66	TRANSISTOR 2SC1623	
Q901	8-729-920-82	TRANSISTOR 2SB1188-QR	
Q902	8-729-920-82	TRANSISTOR 2SB1188-QR	
Q903	8-729-920-82	TRANSISTOR 2SB1188-QR	
Q904	8-729-901-06	TRANSISTOR DTA144EK	
Q905	8-729-901-06	TRANSISTOR DTA144EK	
Q906	8-729-901-01	TRANSISTOR DTC144EK	
Q907	8-729-901-01	TRANSISTOR DTC144EK	
Q908	8-729-901-01	TRANSISTOR DTC144EK	
Q909	8-729-901-06	TRANSISTOR DTA144EK	
Q950	8-729-903-97	TRANSISTOR FMS1FE	
Q990	8-729-100-66	TRANSISTOR 2SC1623	
		< RESISTOR >	
R801	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R802	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R803	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R804	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R805	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R806	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R807	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R810	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R811	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R818	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R819	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R820	1-216-025-00	METAL CHIP 100 5% 1/10W	
R823	1-216-025-00	METAL CHIP 100 5% 1/10W	
R824	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R826	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R830	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R831	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R832	1-216-304-11	METAL CHIP 3.3 5% 1/10W	
R833	1-216-304-11	METAL CHIP 3.3 5% 1/10W	
R834	1-216-304-11	METAL CHIP 3.3 5% 1/10W	
R835	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R840	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R841	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R842	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R843	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R844	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R845	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R846	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R847	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R848	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R849	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R852	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R860	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R861	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R864	1-216-033-00	METAL CHIP 220 5% 1/10W	
R870	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R885	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R886	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R887	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R888	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R890	1-216-681-11	METAL CHIP 18K 0.5% 1/10W	
R891	1-216-681-11	METAL CHIP 18K 0.5% 1/10W	
R892	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R893	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R894	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R895	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R896	1-216-025-00	METAL CHIP 100 5% 1/10W	
R897	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R898	1-216-025-00	METAL CHIP 100 5% 1/10W	
R899	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R900	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R901	1-216-035-00	METAL CHIP 270 5% 1/10W	
R902	1-216-035-00	METAL CHIP 270 5% 1/10W	
R903	1-216-035-00	METAL CHIP 270 5% 1/10W	
R904	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R905	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R906	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R907	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R908	1-216-027-00	METAL CHIP 120 5% 1/10W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
R909	1-216-027-00	METAL CHIP	120	5%	1/10W
R910	1-216-073-00	METAL CHIP	10K	5%	1/10W
R911	1-216-113-00	METAL CHIP	470K	5%	1/10W
R912	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R913	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R916	1-216-073-00	METAL CHIP	10K	5%	1/10W
R917	1-216-073-00	METAL CHIP	10K	5%	1/10W
R918	1-216-073-00	METAL CHIP	10K	5%	1/10W
R919	1-216-073-00	METAL CHIP	10K	5%	1/10W
R920	1-216-077-00	METAL CHIP	15K	5%	1/10W
R921	1-216-083-00	METAL CHIP	27K	5%	1/10W
R922	1-216-085-00	METAL CHIP	33K	5%	1/10W
R923	1-216-748-11	METAL CHIP	39K	5%	1/10W
R924	1-216-089-00	METAL CHIP	47K	5%	1/10W
R925	1-216-089-00	METAL CHIP	47K	5%	1/10W
R926	1-216-111-00	METAL CHIP	390K	5%	1/10W
R927	1-216-110-00	METAL GLAZE	360K	5%	1/10W
R928	1-216-073-00	METAL CHIP	10K	5%	1/10W
R929	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R951	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R952	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R953	1-214-972-00	METAL	0.22	1%	1/4W
R955	1-216-079-00	METAL CHIP	18K	5%	1/10W
R990	1-216-045-00	METAL CHIP	680	5%	1/10W
R991	1-216-073-00	METAL CHIP	10K	5%	1/10W
R992	1-216-073-00	METAL CHIP	10K	5%	1/10W
R993	1-216-049-00	METAL CHIP	1K	5%	1/10W
R996	1-216-049-00	METAL CHIP	1K	5%	1/10W
R997	1-216-049-00	METAL CHIP	1K	5%	1/10W
R998	1-216-049-00	METAL CHIP	1K	5%	1/10W
R999	1-216-295-00	METAL CHIP	0	5%	1/10W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV801	1-230-520-11	RES, ADJ, METAL1K
RV802	1-230-523-11	RES, ADJ, METAL10K
RV803	1-230-527-11	RES, ADJ, METAL100K
RV901	1-230-529-11	RES, ADJ, METAL470K

< THERMISTOR >

Ref. No.	Part No.	Description
THP801	1-202-854-00	THERMISTOR (POSITIVE)

< CONNECTOR >

Ref. No.	Part No.	Description
W801	1-562-880-11	CONNECTOR, CARD EDGE 15P
W901	1-562-880-11	CONNECTOR, CARD EDGE 15P

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* 1-633-698-11 MJ-25 BOARD

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< CAPACITOR >

Ref. No.	Part No.	Description		Remark
C601	1-163-038-00	CERAMIC CHIP	0.1uF	25V

< CONNECTOR >

Ref. No.	Part No.	Description
CN601	1-506-468-11	CONNECTOR 3P, MALE

< DIODE >

Ref. No.	Part No.	Description
D601	8-719-106-80	DIODE RD13M-B1

< JACK >

Ref. No.	Part No.	Description
J601	1-507-995-21	JACK, MICROPHONE (MIC/Ⓝ)

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A-7040-159-A MS-4 BOARD, COMPLETE

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Ref. No.	Part No.	Description		Remark
	1-163-038-00	CERAMIC CHIP	0.1uF	25V
	1-506-485-11	CONNECTOR 6P, MALE		

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* A-7061-826-A PA-27 BOARD, COMPLETE

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< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C001	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C002	1-124-584-00	ELECT	100uF	20%	10V
C003	1-126-154-11	ELECT	47uF	20%	6.3V
C004	1-126-154-11	ELECT	47uF	20%	6.3V
C005	1-130-490-11	MYLAR	0.039uF	5%	50V
C006	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C007	1-130-479-00	MYLAR	0.0047uF	5%	50V
C008	1-126-154-11	ELECT	47uF	20%	6.3V
C009	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C010	1-126-154-11	ELECT	47uF	20%	6.3V
C011	1-130-469-00	MYLAR	680PF	5%	50V
C012	1-130-482-00	MYLAR	0.0082uF	5%	50V
C013	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C014	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C015	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C016	1-126-153-11	ELECT	22uF	20%	6.3V
C017	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C018	1-126-153-11	ELECT	22uF	20%	6.3V
C019	1-126-153-11	ELECT	22uF	20%	6.3V
C031	1-124-584-00	ELECT	100uF	20%	10V

PA-27

Ref. No.	Part No.	Description			Remark
C032	1-124-584-00	ELECT	100uF	20%	10V
C033	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C034	1-126-154-11	ELECT	47uF	20%	6.3V
C035	1-126-154-11	ELECT	47uF	20%	6.3V
C036	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C037	1-126-154-11	ELECT	47uF	20%	6.3V
C038	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C039	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C040	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C041	1-109-814-11	CAP, CHIP MICA	220PF		
C042	1-126-154-11	ELECT	47uF	20%	6.3V
C043	1-126-153-11	ELECT	22uF	20%	6.3V
C044	1-126-154-11	ELECT	47uF	20%	6.3V
C051	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C052	1-124-584-00	ELECT	100uF	20%	10V
C053	1-126-154-11	ELECT	47uF	20%	6.3V
C054	1-126-154-11	ELECT	47uF	20%	6.3V
C055	1-130-490-11	MYLAR	0.039uF	5%	50V
C056	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C057	1-130-479-00	MYLAR	0.0047uF	5%	50V
C058	1-126-154-11	ELECT	47uF	20%	6.3V
C059	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C060	1-126-154-11	ELECT	47uF	20%	6.3V
C061	1-130-469-00	MYLAR	680PF	5%	50V
C062	1-130-482-00	MYLAR	0.0082uF	5%	50V
C063	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C064	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C065	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C066	1-126-153-11	ELECT	22uF	20%	6.3V
C067	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C068	1-126-153-11	ELECT	22uF	20%	6.3V
C069	1-126-153-11	ELECT	22uF	20%	6.3V
		< CONNECTOR >			
CN001	1-563-314-11	CONNECTOR, BOARD TO BOARD 20P			
		< DIODE >			
D031	8-719-104-34	DIODE	1S2836		
D032	8-719-104-34	DIODE	1S2836		
D033	8-719-104-34	DIODE	1S2836		
		< IC >			
IC001	8-752-009-90	IC	CX20099		
IC002	8-759-981-92	IC	RC4558M		
IC003	8-759-981-92	IC	RC4558M		
IC004	8-752-322-57	IC	CXD1077M		
IC004	8-752-322-57	IC	CXD1077M		
IC005	8-759-908-15	IC	TL431CLP		

Ref. No.	Part No.	Description			Remark
		< COIL >			
L001	1-408-793-21	INDUCTOR, CHIP 220uH			
		< TRANSISTOR >			
Q001	8-729-202-38	TRANSISTOR	2SC3326N		
Q002	8-729-202-38	TRANSISTOR	2SC3326N		
Q031	8-729-901-06	TRANSISTOR	DTA144EK		
Q032	8-729-901-06	TRANSISTOR	DTA144EK		
Q033	8-729-901-06	TRANSISTOR	DTA144EK		
Q034	8-729-216-22	TRANSISTOR	2SA1162		
Q035	8-729-216-22	TRANSISTOR	2SA1162		
Q051	8-729-202-38	TRANSISTOR	2SC3326N		
Q052	8-729-202-38	TRANSISTOR	2SC3326N		
		< RESISTOR >			
R001	1-216-043-00	METAL CHIP	560	5%	1/10W
R002	1-216-078-00	METAL GLAZE	16K	5%	1/10W
R003	1-216-072-00	METAL CHIP	9.1K	5%	1/10W
R004	1-216-089-00	METAL CHIP	47K	5%	1/10W
R005	1-216-073-00	METAL CHIP	10K	5%	1/10W
R006	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R007	1-216-073-00	METAL CHIP	10K	5%	1/10W
R008	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R009	1-216-045-00	METAL CHIP	680	5%	1/10W
R010	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R012	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R013	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R014	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R015	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R016	1-216-060-00	METAL GLAZE	3K	5%	1/10W
R017	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R018	1-216-748-11	METAL CHIP	39K	5%	1/10W
R019	1-216-077-00	METAL CHIP	15K	5%	1/10W
R020	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R021	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R022	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R023	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R024	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R031	1-216-117-00	METAL CHIP	680K	5%	1/10W
R032	1-216-700-11	METAL CHIP	470K	1%	1/10W
R033	1-216-022-00	METAL CHIP	75	5%	1/10W
R034	1-216-039-00	METAL CHIP	390	5%	1/10W
R035	1-216-049-00	METAL CHIP	1K	5%	1/10W
R036	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R037	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R039	1-215-401-11	METAL	150	1%	1/6W
R040	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R041	1-216-295-00	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description			Remark
R042	1-216-073-00	METAL CHIP	10K	5%	1/10W
R043	1-216-097-00	METAL CHIP	100K	5%	1/10W
R051	1-216-043-00	METAL CHIP	560	5%	1/10W
R052	1-216-078-00	METAL GLAZE	16K	5%	1/10W
R053	1-216-072-00	METAL CHIP	9.1K	5%	1/10W
R054	1-216-089-00	METAL CHIP	47K	5%	1/10W
R055	1-216-073-00	METAL CHIP	10K	5%	1/10W
R056	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R057	1-216-073-00	METAL CHIP	10K	5%	1/10W
R058	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R059	1-216-045-00	METAL CHIP	680	5%	1/10W
R060	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R062	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R063	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R064	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R065	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R066	1-216-060-00	METAL GLAZE	3K	5%	1/10W
R067	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R068	1-216-748-11	METAL CHIP	39K	5%	1/10W
R069	1-216-077-00	METAL CHIP	15K	5%	1/10W
R070	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R071	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R072	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R073	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R074	1-216-063-00	METAL CHIP	3.9K	5%	1/10W

< VARIABLE RESISTOR >

RV001	1-230-524-11	RES, ADJ, METAL 22K
RV002	1-230-521-11	RES, ADJ, METAL 2.2K
RV031	1-230-521-11	RES, ADJ, METAL 2.2K
RV032	1-230-529-11	RES, ADJ, METAL 470K
RV051	1-230-524-11	RES, ADJ, METAL 22K

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* A-7061-825-A PD-19 (P) BOARD, COMPLETE
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< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C851	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C852	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C853	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C854	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C856	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C857	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C858	1-135-145-11	TANTALUM CHIP	0.47uF	10%	25V
C859	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C860	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C861	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C862	1-163-085-00	CERAMIC CHIP	2PF		50V
C863	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C864	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C867	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C868	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C869	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C870	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C871	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C872	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C873	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C874	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C875	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C876	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C877	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C878	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C879	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C880	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V
C881	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C882	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C884	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C885	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C886	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C887	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C888	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C889	1-135-156-21	TANTALUM CHIP	6.8uF	10%	6.3V

< CONNECTOR >

CN851	* 1-565-107-21	PIN, CONNECTOR (PC BOARD) 35P
CN852	* 1-565-107-21	PIN, CONNECTOR (PC BOARD) 35P
CN853	1-506-777-11	CONNECTOR, BOARD TO BOARD 20P

< DIODE >

D851	8-719-104-34	DIODE 1S2836
D852	8-719-400-18	DIODE MA152WK
D853	8-719-400-18	DIODE MA152WK

< IC >

IC851	8-752-324-45	IC CXD1066Q-Z
IC852	8-759-929-17	IC CXD1051M
IC853	8-752-010-30	IC CX20103
IC854	8-752-010-20	IC CX20102
IC855	8-752-331-00	IC CXK5864BM-12L-T6
IC856	8-759-948-61	IC CX23011-C
IC857	8-759-911-19	IC CX23012
IC858	8-759-972-12	IC CF77305FT
IC859	8-759-809-68	IC CXP5024H-079Q
IC860	8-759-972-13	IC CF77309FR

< COIL >

Ref. No.	Part No.	Description	Remark
L851	1-410-393-11	INDUCTOR CHIP 100uH	
L852	1-410-393-11	INDUCTOR CHIP 100uH	
L853	1-410-393-11	INDUCTOR CHIP 100uH	
L855	1-410-393-11	INDUCTOR CHIP 100uH	
L856	1-410-393-11	INDUCTOR CHIP 100uH	
L857	1-410-393-11	INDUCTOR CHIP 100uH	
L858	1-410-393-11	INDUCTOR CHIP 100uH	
L859	1-410-393-11	INDUCTOR CHIP 100uH	
L860	1-410-393-11	INDUCTOR CHIP 100uH	
L861	1-410-393-11	INDUCTOR CHIP 100uH	
L862	1-410-393-11	INDUCTOR CHIP 100uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q851	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q852	8-729-122-63	TRANSISTOR 2SA1226	
Q853	8-729-102-07	TRANSISTOR 2SC2223-F13	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R851	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R852	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R853	1-216-033-00	METAL CHIP 220 5% 1/10W	
R854	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R855	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R856	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R857	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R858	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R859	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R860	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R861	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R862	1-216-025-00	METAL CHIP 100 5% 1/10W	
R863	1-216-041-00	METAL CHIP 470 5% 1/10W	
R864	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R866	1-216-041-00	METAL CHIP 470 5% 1/10W	
R867	1-216-295-00	METAL CHIP 0 5% 1/10W	
R868	1-216-295-00	METAL CHIP 0 5% 1/10W	
R869	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R870	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R871	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R872	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R873	1-216-041-00	METAL CHIP 470 5% 1/10W	
R874	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R875	1-216-295-00	METAL CHIP 0 5% 1/10W	
R876	1-216-045-00	METAL CHIP 680 5% 1/10W	
R879	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R880	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R881	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R882	1-216-043-00	METAL CHIP 560 5% 1/10W	
R883	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R884	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R886	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R887	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R888	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R889	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R890	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R891	1-216-295-00	METAL CHIP 0 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV052	1-230-521-11	RES, ADJ, METAL 2.2K	
RV851	1-230-869-11	RES, ADJ, METAL 4.7K	
RV854	1-230-868-11	RES, ADJ, METAL 2.2K	

< CRYSTAL >

Ref. No.	Part No.	Description	Remark
X851	1-567-669-91	VIBRATOR, LITHIUM TANTALATE	
X852	1-567-346-11	OSCILLATOR, CERAMIC (5MHz)	

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* A-7061-827-A RP-73 BOARD, COMPLETE (LP)
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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C001	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C002	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C003	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C005	1-164-330-21	CERAMIC CHIP 0.22uF 10% 16V	
C006	1-135-161-21	TANTALUM CHIP 22uF 10% 6.3V	
C007	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C008	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C009	1-135-161-21	TANTALUM CHIP 22uF 10% 6.3V	
C010	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C011	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C012	1-164-330-21	CERAMIC CHIP 0.22uF 10% 16V	
C013	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C015	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C016	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C017	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C020	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C021	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C022	1-135-091-00	TANTAL. CHIP 1uF 20% 16V	
C023	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C024	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C025	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C027	1-135-091-00	TANTAL. CHIP 1uF 20% 16V	
C028	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C029	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C030	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C031	1-164-218-11	CERAMIC CHIP 180PF 0.25PF 50V	

Ref. No.	Part No.	Description	Remark
C032	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C033	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C034	1-162-912-11	CERAMIC CHIP 7PF 0.5PF 50V	
C035	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C036	1-164-218-11	CERAMIC CHIP 180PF 0.25PF 50V	
C037	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C038	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C039	1-162-912-11	CERAMIC CHIP 7PF 0.5PF 50V	
C040	1-162-913-11	CERAMIC CHIP 8PF 0.5PF 50V	
C041	1-162-913-11	CERAMIC CHIP 8PF 0.5PF 50V	
C042	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C043	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C044	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C045	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C046	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	

< DIODE >

Ref. No.	Part No.	Description	Remark
D001	8-719-801-41	DIODE 1SS196	
D002	8-719-801-41	DIODE 1SS196	

< IC >

Ref. No.	Part No.	Description	Remark
IC001	8-752-033-00	IC CXA1234AR	

< COIL >

Ref. No.	Part No.	Description	Remark
L001	1-410-385-11	INDUCTOR CHIP 22uH	
L002	1-410-656-11	INDUCTOR CHIP 150uH	
L004	1-410-393-11	INDUCTOR CHIP 100uH	
L005	1-410-381-11	INDUCTOR CHIP 10uH	
L007	1-410-393-11	INDUCTOR CHIP 100uH	
L008	1-410-384-31	INDUCTOR CHIP 18uH	
L009	1-410-384-31	INDUCTOR CHIP 18uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q002	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q003	8-729-102-07	TRANSISTOR 2SC2223-F13	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R001	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R002	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R003	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R004	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R005	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R006	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R007	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R008	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R009	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R010	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R011	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R012	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R013	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R014	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R015	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R016	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R017	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R018	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R019	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R020	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R021	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R026	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R027	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R028	1-216-797-11	METAL CHIP 10 5% 1/16W	
R029	1-216-812-11	METAL CHIP 180 5% 1/16W	
R030	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R031	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R032	1-216-797-11	METAL CHIP 10 5% 1/16W	
R033	1-216-812-11	METAL CHIP 180 5% 1/16W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV001	1-230-871-11	RES, ADJ, METAL 22K	
RV002	1-230-871-11	RES, ADJ, METAL 22K	
RV003	1-230-869-11	RES, ADJ, METAL 4.7K	
RV004	1-230-869-11	RES, ADJ, METAL 4.7K	

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* A-7062-166-A RP-103 BOARD, COMPLETE (SP)

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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C001	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C002	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C003	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C005	1-164-330-21	CERAMIC CHIP 0.22uF 10% 16V	
C006	1-135-161-21	TANTALUM CHIP 22uF 10% 6.3V	
C007	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C008	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C009	1-135-161-21	TANTALUM CHIP 22uF 10% 6.3V	
C010	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C011	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C012	1-164-330-21	CERAMIC CHIP 0.22uF 10% 16V	
C013	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C015	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C016	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C017	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C020	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C021	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C022	1-135-091-00	TANTAL. CHIP 1uF 20% 16V	
C023	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	

Ref. No.	Part No.	Description	Remark
C024	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C025	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C027	1-135-091-00	TANTAL. CHIP 1uF 20% 16V	
C029	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C030	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C031	1-164-218-11	CERAMIC CHIP 180PF 0.25PF 50V	
C032	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C033	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C034	1-162-912-11	CERAMIC CHIP 7PF 0.5PF 50V	
C035	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C036	1-164-218-11	CERAMIC CHIP 180PF 0.25PF 50V	
C037	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C038	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C039	1-162-912-11	CERAMIC CHIP 7PF 0.5PF 50V	
C040	1-162-913-11	CERAMIC CHIP 8PF 0.5PF 50V	
C041	1-162-913-11	CERAMIC CHIP 8PF 0.5PF 50V	
C042	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C043	1-135-157-21	TANTALUM CHIP 10uF 20% 6.3V	
C044	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C045	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C046	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
		< DIODE >	
D001	8-719-801-41	DIODE 1SS196	
D002	8-719-801-41	DIODE 1SS196	
		< IC >	
IC001	8-752-033-00	IC CXA1234AR	
		< COIL >	
L001	1-410-385-11	INDUCTOR CHIP 22uH	
L002	1-410-656-11	INDUCTOR CHIP 150uH	
L004	1-410-393-11	INDUCTOR CHIP 100uH	
L005	1-410-381-11	INDUCTOR CHIP 10uH	
L007	1-410-393-11	INDUCTOR CHIP 100uH	
L008	1-410-384-31	INDUCTOR CHIP 18uH	
L009	1-410-384-31	INDUCTOR CHIP 18uH	
		< TRANSISTOR >	
Q002	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q003	8-729-102-07	TRANSISTOR 2SC2223-F13	
		< RESISTOR >	
R001	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R002	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R003	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R004	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R005	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R006	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R007	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R008	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R009	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R010	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R011	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R012	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R013	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R014	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R017	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R018	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R019	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R020	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R021	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R026	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R027	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R028	1-216-797-11	METAL CHIP 10 5% 1/16W	
R029	1-216-812-11	METAL CHIP 180 5% 1/16W	
R030	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R031	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R032	1-216-797-11	METAL CHIP 10 5% 1/16W	
R033	1-216-812-11	METAL CHIP 180 5% 1/16W	
		< VARIABLE RESISTOR >	
RV002	1-230-871-11	RES, ADJ, METAL 22K	
RV003	1-230-869-11	RES, ADJ, METAL 4.7K	
RV004	1-230-869-11	RES, ADJ, METAL 4.7K	

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Ref. No.	Part No.	Description	Remark
	* A-7061-818-A	RS-31 BOARD, COMPLETE ********************	
	* 1-559-762-11	WIRE, FLAT TYPE 22P	
	3-712-410-01	HOLDER, RS	
		< CONNECTOR >	
CN301	1-506-481-11	CONNECTOR 2P, MALE	
CN302	1-506-481-11	CONNECTOR 2P, MALE	
CN304	* 1-563-494-11	CONNECTOR, F.P.C 6P	
CN305	* 1-565-211-11	CONNECTOR, FPC (ZIF) 22P	
		< DIODE >	
D320	8-719-800-76	DIODE 1SS226	
D321	8-719-800-76	DIODE 1SS226	
		< IC >	
IC301	8-759-908-81	IC MB3763PF	
IC302	8-759-908-81	IC MB3763PF	

Ref. No.	Part No.	Description	Remark
		< PHOTO INTERRUPTER >	
PH301	8-719-939-11	PHOTO INTERRUPTER GP-2S09-B	
PH302	8-719-939-11	PHOTO INTERRUPTER GP-2S09-B	
PH303	8-719-939-11	PHOTO INTERRUPTER GP-2S09-B	
		< IC LINK >	
PS301 ⚠	1-532-727-11	LINK, IC (0.25A 125V)	
		< TRANSISTOR >	
Q301	8-729-805-25	TRANSISTOR 2SB1121	
Q302	8-729-216-22	TRANSISTOR 2SA1162	
Q303	8-729-216-22	TRANSISTOR 2SA1162	
Q304	8-729-216-22	TRANSISTOR 2SA1162	
Q305	8-729-901-01	TRANSISTOR DTC144EK	
Q306	8-729-901-01	TRANSISTOR DTC144EK	
Q307	8-729-901-01	TRANSISTOR DTC144EK	
		< RESISTOR >	
R302	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R303	1-216-186-00	METAL GLAZE 330 5% 1/8W	
R304	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R305	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R306	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R307	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R308	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R309	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R320	1-216-041-00	METAL CHIP 470 5% 1/10W	
R321	1-216-041-00	METAL CHIP 470 5% 1/10W	
R322	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R323	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R324	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R325	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R326	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R327	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R328	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R329	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R330	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R331	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R332	1-216-073-00	METAL CHIP 10K 5% 1/10W	

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Ref. No.	Part No.	Description	Remark
*	A-7062-167-A	SE-10 (P) BOARD, COMPLETE *************************	
	3-831-441-XX	CUSHION (5)	
		< CAPACITOR >	
C006	1-126-157-11	ELECT 10uF 20% 16V	
C008	1-163-095-00	CERAMIC CHIP 12PF 5% 50V	
C009	1-163-095-00	CERAMIC CHIP 12PF 5% 50V	
C010	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C011	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C012	1-126-163-11	ELECT 0.68uF 20% 50V	
C013	1-126-157-11	ELECT 10uF 20% 16V	
C014	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C015	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C016	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C017	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C018	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C019	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C020	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C021	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C022	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C028	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C031	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C032	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C033	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C034	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C035	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C036	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C037	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C101	1-126-157-11	ELECT 10uF 20% 16V	
C102	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C103	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C104	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C105	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C106	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C107	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C108	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C109	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	
C110	1-126-320-11	ELECT, NONPOLAR 10uF 20% 16V	
C111	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C112	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C113	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C114	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C115	1-126-157-11	ELECT 10uF 20% 16V	
C116	1-124-499-11	ELECT, NONPOLAR 1uF 20% 50V	
C117	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C118	1-126-157-11	ELECT 10uF 20% 16V	
C119	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
C120	1-163-209-00	CERAMIC CHIP 0.0015uF 5% 50V	
C121	1-163-209-00	CERAMIC CHIP 0.0015uF 5% 50V	
C122	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C127	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C128	1-124-767-00	ELECT 2.2uF 20% 50V	
C130	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C131	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C132	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C133	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C134	1-124-499-11	ELECT, NONPOLAR 1uF 20% 50V	
C135	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C136	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C137	1-124-768-11	ELECT 4.7uF 20% 50V	
C201	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C202	1-163-123-00	CERAMIC CHIP 180PF 5% 50V	
C203	1-163-137-00	CERAMIC CHIP 680PF 5% 50V	
C204	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C205	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C206	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C207	1-163-141-00	CERAMIC CHIP 0.001uF 5% 50V	
C208	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C209	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C210	1-124-234-00	ELECT 22uF 20% 16V	
C211	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C212	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C213	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C214	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C215	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C216	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C217	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C218	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C219	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C220	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C221	1-124-256-00	ELECT 1.5uF 20% 50V	
C223	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C224	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C226	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C301	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C302	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C303	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C304	1-124-584-00	ELECT 100uF 20% 10V	
C305	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C306	1-124-584-00	ELECT 100uF 20% 10V	
C307	1-126-163-11	ELECT 0.68uF 20% 50V	
C308	1-124-257-00	ELECT 2.2uF 20% 50V	
C309	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C310	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C311	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C401	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C402	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	
C403	1-126-163-11	ELECT 0.68uF 20% 50V	
C404	1-126-163-11	ELECT 0.68uF 20% 50V	
C405	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C406	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C407	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C408	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C409	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C410	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C411	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C412	1-126-157-11	ELECT 10uF 20% 16V	
C502	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C503	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C504	1-124-257-00	ELECT 2.2uF 20% 50V	
C505	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C506	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C508	1-124-589-11	ELECT 47uF 20% 16V	
C601	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C602	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C603	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C604	1-124-589-11	ELECT 47uF 20% 16V	
C605	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C606	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C607	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C608	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C609	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C610	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C611	1-126-157-11	ELECT 10uF 20% 16V	
C612	1-126-157-11	ELECT 10uF 20% 16V	
C613	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C614	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C615	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C616	1-164-633-11	CERAMIC CHIP 0.1uF 10% 25V	
C617	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C620	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C621	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C622	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C623	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C624	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C625	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C626	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C627	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C628	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C629	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C630	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C631	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C632	1-126-157-11	ELECT 10uF 20% 16V	

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN001	* 1-566-641-11	CONNECTOR, HINGE (TAB) 18P	
CN002	* 1-566-941-11	CONNECTOR, HINGE (TAB) 30P	
CN003	* 1-566-641-11	CONNECTOR, HINGE (TAB) 18P	
CN004	1-566-945-11	CONNECTOR, BOARD TO BOARD 18P	
CN005	1-566-946-11	CONNECTOR, BOARD TO BOARD 22P	
CN011	1-565-212-11	CONNECTOR, FPC (ZIF) 26P	
CN012	* 1-565-211-11	CONNECTOR, FPC (ZIF) 22P	
CN901	1-506-473-11	CONNECTOR 8P, MALE	
CN902	1-506-477-11	CONNECTOR 12P, MALE	
CN903	1-506-478-11	CONNECTOR 13P, MALE	
CN904	1-506-470-11	CONNECTOR 5P, MALE	
CN905	1-506-474-11	CONNECTOR 9P, MALE	
CN906	1-506-472-11	CONNECTOR 7P, MALE	
CN907	1-506-477-11	CONNECTOR 12P, MALE	
		< DIODE >	
D003	8-719-400-18	DIODE MA152WK	
D004	8-719-400-18	DIODE MA152WK	
D005	8-719-400-18	DIODE MA152WK	
D006	8-719-104-34	DIODE 1S2836	
D007	8-719-400-18	DIODE MA152WK	
D008	8-719-400-18	DIODE MA152WK	
D009	8-719-400-18	DIODE MA152WK	
D012	8-719-400-18	DIODE MA152WK	
D013	8-719-400-18	DIODE MA152WK	
D015	8-719-104-34	DIODE 1S2836	
D016	8-719-104-34	DIODE 1S2836	
D102	8-719-800-76	DIODE 1SS226	
D103	8-719-800-76	DIODE 1SS226	
D104	8-719-104-34	DIODE 1S2836	
D105	8-719-400-18	DIODE MA152WK	
D106	8-719-400-18	DIODE MA152WK	
D107	8-719-104-34	DIODE 1S2836	
D108	8-719-400-18	DIODE MA152WK	
D109	8-719-400-18	DIODE MA152WK	
D110	8-719-104-34	DIODE 1S2836	
D111	8-719-400-18	DIODE MA152WK	
D112	8-719-104-34	DIODE 1S2836	
D201	8-719-400-18	DIODE MA152WK	
D203	8-719-105-82	DIODE RD5.1M-B2	
D301	8-719-400-18	DIODE MA152WK	
D302	8-719-400-18	DIODE MA152WK	
D401	8-719-800-76	DIODE 1SS226	
D701	8-719-400-18	DIODE MA152WK	
		< FILTER >	
FL201	1-235-611-21	BPF	
FL202	1-235-612-21	BPF	
		< IC >	
IC001	8-752-816-72	IC CXP80116-692Q	
IC002	8-752-818-14	IC CXP5046H-255Q	
IC003	8-752-815-13	IC CXP5048H-222Q	
IC004	8-759-144-21	IC uPD75106G-573-1B	
IC007	8-759-008-67	IC MC14066BF	
IC008	8-759-937-56	IC S-8054ALB-LM-T1	
IC101	8-752-003-50	IC CX20035	
IC102	8-752-817-64	IC CXP5048H-244Q	
IC103	8-759-925-66	IC BA6303F	
IC104	8-759-981-75	IC RC3403AM	
IC105	8-759-208-11	IC MC14053BF	
IC106	8-759-971-25	IC MB674169U	
IC107	8-759-100-94	IC uPC358G2	
IC108	8-759-008-67	IC MC14066BF	
IC201	8-759-928-56	IC CXA1042M	
IC202	8-759-150-05	IC uPC324G2-E1	
IC203	8-759-208-11	IC MC14053BF	
IC204	8-759-927-46	IC SN74HC00ANS	
IC205	8-759-710-86	IC NJM2233BM	
IC206	8-759-035-93	IC SC7S32F	
IC301	8-759-100-94	IC uPC358G2	
IC302	8-759-208-11	IC MC14053BF	
IC303	8-759-208-11	IC MC14053BF	
IC304	8-759-200-90	IC TC4538BF	
IC305	8-759-927-46	IC SN74HC00ANS	
IC601	8-759-927-94	IC BU3707F	
IC602	8-759-927-52	IC BA7035LS	
IC603	8-759-100-93	IC uPC393G2	
IC604	8-759-150-05	IC uPC324G2	
		< COIL >	
L001	1-408-777-00	INDUCTOR CHIP 10uH	
L002	1-408-777-00	INDUCTOR CHIP 10uH	
L003	1-408-777-00	INDUCTOR CHIP 10uH	
L101	1-408-777-00	INDUCTOR CHIP 10uH	
L401	1-408-777-00	INDUCTOR CHIP 10uH	
L402	1-408-777-00	INDUCTOR CHIP 10uH	
L403	1-408-783-00	INDUCTOR CHIP 33uH	
L404	1-408-777-00	INDUCTOR CHIP 10uH	
L501	1-408-777-00	INDUCTOR CHIP 10uH	
L601	1-408-777-00	INDUCTOR CHIP 10uH	
L602	1-408-777-00	INDUCTOR CHIP 10uH	
		< IC LINK >	
PS601	⚠ 1-532-679-00	LINK, IC	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SE-10 (P)

Ref. No.	Part No.	Description					Remark
		< TRANSISTOR >					
Q002	8-729-901-01	TRANSISTOR	DTC144EK				
Q003	8-729-901-06	TRANSISTOR	DTA144EK				
Q004	8-729-901-01	TRANSISTOR	DTC144EK				
Q005	8-729-901-01	TRANSISTOR	DTC144EK				
Q006	8-729-901-01	TRANSISTOR	DTC144EK				
Q007	8-729-901-01	TRANSISTOR	DTC144EK				
Q008	8-729-901-01	TRANSISTOR	DTC144EK				
Q009	8-729-901-01	TRANSISTOR	DTC144EK				
Q010	8-729-901-06	TRANSISTOR	DTA144EK				
Q011	8-729-901-06	TRANSISTOR	DTA144EK				
Q014	8-729-901-01	TRANSISTOR	DTC144EK				
Q015	8-729-901-01	TRANSISTOR	DTC144EK				
Q018	8-729-901-01	TRANSISTOR	DTC144EK				
Q101	8-729-901-06	TRANSISTOR	DTA144EK				
Q102	8-729-901-06	TRANSISTOR	DTA144EK				
Q103	8-729-901-06	TRANSISTOR	DTA144EK				
Q104	8-729-901-01	TRANSISTOR	DTC144EK				
Q106	8-729-100-66	TRANSISTOR	2SC1623				
Q107	8-729-901-06	TRANSISTOR	DTA144EK				
Q108	8-729-901-06	TRANSISTOR	DTA144EK				
Q109	8-729-901-06	TRANSISTOR	DTA144EK				
Q110	8-729-901-06	TRANSISTOR	DTA144EK				
Q111	8-729-100-66	TRANSISTOR	2SC1623				
Q112	8-729-901-01	TRANSISTOR	DTC144EK				
Q113	8-729-901-01	TRANSISTOR	DTC144EK				
Q114	8-729-901-01	TRANSISTOR	DTC144EK				
Q115	8-729-901-01	TRANSISTOR	DTC144EK				
Q116	8-729-901-06	TRANSISTOR	DTA144EK				
Q202	8-729-216-22	TRANSISTOR	2SA1162				
Q205	8-729-901-01	TRANSISTOR	DTC144EK				
Q209	8-729-901-06	TRANSISTOR	DTA144EK				
Q210	8-729-901-01	TRANSISTOR	DTC144EK				
Q301	8-729-901-06	TRANSISTOR	DTA144EK				
Q302	8-729-901-01	TRANSISTOR	DTC144EK				
Q303	8-729-901-01	TRANSISTOR	DTC144EK				
Q304	8-729-901-01	TRANSISTOR	DTC144EK				
Q305	8-729-901-01	TRANSISTOR	DTC144EK				
Q306	8-729-901-06	TRANSISTOR	DTA144EK				
Q307	8-729-901-01	TRANSISTOR	DTC144EK				
Q308	8-729-901-01	TRANSISTOR	DTC144EK				
Q309	8-729-901-01	TRANSISTOR	DTC144EK				
Q401	8-729-216-22	TRANSISTOR	2SA1162				
Q402	8-729-100-66	TRANSISTOR	2SC1623				
Q403	8-729-100-66	TRANSISTOR	2SC1623				
Q404	8-729-216-22	TRANSISTOR	2SA1162				
Q405	8-729-100-66	TRANSISTOR	2SC1623				
Q406	8-729-216-22	TRANSISTOR	2SA1162				
Q407	8-729-100-66	TRANSISTOR	2SC1623				
Q408	8-729-216-22	TRANSISTOR	2SA1162				
Q409	8-729-100-66	TRANSISTOR	2SC1623				
Q410	8-729-100-66	TRANSISTOR	2SC1623				
Q411	8-729-100-66	TRANSISTOR	2SC1623				
Q502	8-729-100-66	TRANSISTOR	2SC1623				
Q503	8-729-901-06	TRANSISTOR	DTA144EK				
Q504	8-729-100-66	TRANSISTOR	2SC1623				
Q505	8-729-100-66	TRANSISTOR	2SC1623				
Q506	8-729-100-66	TRANSISTOR	2SC1623				
Q507	8-729-901-06	TRANSISTOR	DTA144EK				
Q508	8-729-901-06	TRANSISTOR	DTA144EK				
Q601	8-729-901-06	TRANSISTOR	DTA144EK				
Q604	8-729-805-25	TRANSISTOR	2SB1121				
Q605	8-729-100-66	TRANSISTOR	2SC1623				
Q606	8-729-901-06	TRANSISTOR	DTA144EK				
Q701	8-729-901-06	TRANSISTOR	DTA144EK				
Q702	8-729-901-06	TRANSISTOR	DTA144EK				
Q703	8-729-901-01	TRANSISTOR	DTC144EK				
Q704	8-729-216-22	TRANSISTOR	2SA1162				
Q705	8-729-216-22	TRANSISTOR	2SA1162				
Q706	8-729-100-66	TRANSISTOR	2SC1623				
Q707	8-729-100-66	TRANSISTOR	2SC1623				
Q708	8-729-901-06	TRANSISTOR	DTA144EK				
Q709	8-729-901-06	TRANSISTOR	DTA144EK				
Q710	8-729-901-06	TRANSISTOR	DTA144EK				
Q711	8-729-901-06	TRANSISTOR	DTA144EK				
Q712	8-729-901-06	TRANSISTOR	DTA144EK				
Q713	8-729-901-01	TRANSISTOR	DTC144EK				
Q714	8-729-901-01	TRANSISTOR	DTC144EK				
		< RESISTOR >					
R001	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R002	1-216-057-00	METAL CHIP	2.2K	5%	1/10W		
R003	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R005	1-216-101-00	METAL CHIP	150K	5%	1/10W		
R009	1-216-089-00	METAL CHIP	47K	5%	1/10W		
R010	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R011	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R012	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R013	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R014	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R015	1-216-049-00	METAL CHIP	1K	5%	1/10W		
R016	1-216-089-00	METAL CHIP	47K	5%	1/10W		
R017	1-216-089-00	METAL CHIP	47K	5%	1/10W		
R018	1-216-691-11	METAL CHIP	47K	0.5%	1/10W		
R019	1-216-691-11	METAL CHIP	47K	0.5%	1/10W		
R020	1-216-687-11	METAL CHIP	33K	0.5%	1/10W		

Ref. No.	Part No.	Description				Remark
R021	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R022	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R023	1-216-674-11	METAL CHIP	9.1K	0.5%	1/10W	
R024	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R025	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R026	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R027	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R028	1-216-039-00	METAL CHIP	390	5%	1/10W	
R029	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R030	1-216-295-00	METAL CHIP	0	5%	1/10W	
R031	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R032	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R033	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R034	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R035	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R036	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R037	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R038	1-216-039-00	METAL CHIP	390	5%	1/10W	
R039	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R040	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R041	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R043	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R045	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R046	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R047	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R048	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R049	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R050	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R051	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R052	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R053	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R054	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R055	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R056	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R057	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R058	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R059	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R060	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R061	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R062	1-216-039-00	METAL CHIP	390	5%	1/10W	
R063	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R064	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R065	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R066	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R067	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R068	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R069	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R070	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R071	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R072	1-216-043-00	METAL CHIP	560	5%	1/10W	
R073	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R074	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R075	1-216-039-00	METAL CHIP	390	5%	1/10W	
R076	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R077	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R078	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R079	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R080	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R081	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R082	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R083	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R084	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R085	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R086	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R087	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R088	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R089	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R090	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R091	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R092	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R093	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R094	1-216-686-11	METAL CHIP	30K	0.5%	1/10W	
R095	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R096	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R097	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R098	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R101	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R102	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R103	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R104	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R105	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R106	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R107	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R108	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R110	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R111	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R112	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R113	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R114	1-216-107-00	METAL CHIP	270K	5%	1/10W	
R115	1-216-107-00	METAL CHIP	270K	5%	1/10W	
R116	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R117	1-216-117-00	METAL CHIP	680K	5%	1/10W	
R118	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R119	1-216-117-00	METAL CHIP	680K	5%	1/10W	
R120	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R121	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R124	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R125	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R126	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R127	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R128	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R129	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R130	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R131	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R132	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R133	1-216-748-11	METAL CHIP	39K	5%	1/10W	
R135	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R137	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R138	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R139	1-216-295-00	METAL CHIP	0	5%	1/10W	
R140	1-216-295-00	METAL CHIP	0	5%	1/10W	
R141	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R142	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R143	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R148	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R149	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R150	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R151	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R152	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R153	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R154	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R155	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R156	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R157	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R158	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R159	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R160	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R161	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R162	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R163	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R164	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R165	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R167	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R168	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R169	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R170	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R171	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R172	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R173	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R174	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R175	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R177	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R180	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R181	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R204	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R205	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R206	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R207	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R208	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R209	1-216-117-00	METAL CHIP	680K	5%	1/10W	
R210	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R211	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R215	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R216	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R217	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R218	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R219	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R220	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R221	1-216-111-00	METAL CHIP	390K	5%	1/10W	
R222	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R223	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R224	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R225	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R226	1-216-045-00	METAL CHIP	680	5%	1/10W	
R227	1-216-045-00	METAL CHIP	680	5%	1/10W	
R228	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R234	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R235	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R236	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R237	1-216-295-00	METAL CHIP	0	5%	1/10W	
R301	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R302	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R303	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R304	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R305	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R306	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R307	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R308	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R309	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R310	1-216-295-00	METAL CHIP	0	5%	1/10W	
R312	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R314	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R315	1-216-295-00	METAL CHIP	0	5%	1/10W	
R316	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R317	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R318	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R319	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R320	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R321	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R322	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R323	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R324	1-216-073-00	METAL CHIP	10K	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R325	1-216-073-00	METAL CHIP	10K	5%	1/10W
R326	1-216-073-00	METAL CHIP	10K	5%	1/10W
R327	1-216-089-00	METAL CHIP	47K	5%	1/10W
R328	1-216-113-00	METAL CHIP	470K	5%	1/10W
R329	1-216-073-00	METAL CHIP	10K	5%	1/10W
R330	1-216-073-00	METAL CHIP	10K	5%	1/10W
R331	1-216-073-00	METAL CHIP	10K	5%	1/10W
R332	1-216-073-00	METAL CHIP	10K	5%	1/10W
R401	1-216-043-00	METAL CHIP	560	5%	1/10W
R402	1-216-077-00	METAL CHIP	15K	5%	1/10W
R403	1-216-081-00	METAL CHIP	22K	5%	1/10W
R404	1-216-089-00	METAL CHIP	47K	5%	1/10W
R405	1-216-085-00	METAL CHIP	33K	5%	1/10W
R406	1-216-073-00	METAL CHIP	10K	5%	1/10W
R407	1-216-073-00	METAL CHIP	10K	5%	1/10W
R408	1-216-089-00	METAL CHIP	47K	5%	1/10W
R409	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R410	1-216-085-00	METAL CHIP	33K	5%	1/10W
R411	1-216-085-00	METAL CHIP	33K	5%	1/10W
R412	1-216-079-00	METAL CHIP	18K	5%	1/10W
R413	1-216-052-00	METAL CHIP	1.3K	5%	1/10W
R414	1-216-045-00	METAL CHIP	680	5%	1/10W
R415	1-216-081-00	METAL CHIP	22K	5%	1/10W
R416	1-216-081-00	METAL CHIP	22K	5%	1/10W
R417	1-216-047-00	METAL CHIP	820	5%	1/10W
R418	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R419	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R420	1-216-029-00	METAL CHIP	150	5%	1/10W
R421	1-216-081-00	METAL CHIP	22K	5%	1/10W
R422	1-216-081-00	METAL CHIP	22K	5%	1/10W
R502	1-216-045-00	METAL CHIP	680	5%	1/10W
R503	1-216-077-00	METAL CHIP	15K	5%	1/10W
R504	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-033-00	METAL CHIP	220	5%	1/10W
R506	1-216-035-00	METAL CHIP	270	5%	1/10W
R507	1-216-041-00	METAL CHIP	470	5%	1/10W
R508	1-216-072-00	METAL CHIP	9.1K	5%	1/10W
R509	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R510	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R511	1-216-049-00	METAL CHIP	1K	5%	1/10W
R512	1-216-085-00	METAL CHIP	33K	5%	1/10W
R513	1-216-081-00	METAL CHIP	22K	5%	1/10W
R514	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R515	1-216-041-00	METAL CHIP	470	5%	1/10W
R551	1-216-073-00	METAL CHIP	10K	5%	1/10W
R552	1-216-073-00	METAL CHIP	10K	5%	1/10W
R553	1-216-748-11	METAL CHIP	39K	5%	1/10W
R554	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R555	1-216-073-00	METAL CHIP	10K	5%	1/10W
R556	1-216-073-00	METAL CHIP	10K	5%	1/10W
R557	1-216-109-00	METAL CHIP	330K	5%	1/10W
R558	1-216-295-00	METAL CHIP	0	5%	1/10W
R561	1-216-073-00	METAL CHIP	10K	5%	1/10W
R562	1-216-090-00	METAL CHIP	51K	5%	1/10W
R563	1-216-085-00	METAL CHIP	33K	5%	1/10W
R564	1-216-073-00	METAL CHIP	10K	5%	1/10W
R565	1-216-049-00	METAL CHIP	1K	5%	1/10W
R566	1-216-041-00	METAL CHIP	470	5%	1/10W
R567	1-216-049-00	METAL CHIP	1K	5%	1/10W
R602	1-216-081-00	METAL CHIP	22K	5%	1/10W
R604	1-216-049-00	METAL CHIP	1K	5%	1/10W
R605	1-216-073-00	METAL CHIP	10K	5%	1/10W
R606	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R607	1-216-073-00	METAL CHIP	10K	5%	1/10W
R608	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R609	1-216-049-00	METAL CHIP	1K	5%	1/10W
R610	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R611	1-216-073-00	METAL CHIP	10K	5%	1/10W
R612	1-216-073-00	METAL CHIP	10K	5%	1/10W
R613	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R614	1-216-049-00	METAL CHIP	1K	5%	1/10W
R615	1-216-049-00	METAL CHIP	1K	5%	1/10W
R616	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R617	1-216-121-00	METAL CHIP	1M	5%	1/10W
R618	1-216-049-00	METAL CHIP	1K	5%	1/10W
R619	1-216-049-00	METAL CHIP	1K	5%	1/10W
R620	1-216-049-00	METAL CHIP	1K	5%	1/10W
R621	1-216-049-00	METAL CHIP	1K	5%	1/10W
R622	1-216-049-00	METAL CHIP	1K	5%	1/10W
R623	1-216-049-00	METAL CHIP	1K	5%	1/10W
R624	1-216-049-00	METAL CHIP	1K	5%	1/10W
R625	1-216-049-00	METAL CHIP	1K	5%	1/10W
R626	1-216-049-00	METAL CHIP	1K	5%	1/10W
R627	1-216-049-00	METAL CHIP	1K	5%	1/10W
R628	1-216-049-00	METAL CHIP	1K	5%	1/10W
R629	1-216-049-00	METAL CHIP	1K	5%	1/10W
R630	1-216-049-00	METAL CHIP	1K	5%	1/10W
R632	1-216-049-00	METAL CHIP	1K	5%	1/10W
R633	1-216-045-00	METAL CHIP	680	5%	1/10W
R634	1-216-045-00	METAL CHIP	680	5%	1/10W
R635	1-216-045-00	METAL CHIP	680	5%	1/10W
R636	1-216-049-00	METAL CHIP	1K	5%	1/10W
R637	1-216-073-00	METAL CHIP	10K	5%	1/10W
R638	1-216-073-00	METAL CHIP	10K	5%	1/10W
R639	1-216-073-00	METAL CHIP	10K	5%	1/10W
R640	1-216-073-00	METAL CHIP	10K	5%	1/10W
R641	1-216-073-00	METAL CHIP	10K	5%	1/10W
R643	1-216-049-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description	Remark
R701	1-216-097-00	METAL CHIP 100K 5%	1/10W
R702	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R703	1-216-691-11	METAL CHIP 47K 0.5%	1/10W
R704	1-216-693-11	METAL CHIP 56K 0.5%	1/10W
R705	1-216-663-11	METAL CHIP 3.3K 0.5%	1/10W
R706	1-216-697-11	METAL CHIP 82K 0.5%	1/10W
R707	1-216-101-00	METAL CHIP 150K 5%	1/10W
R708	1-216-685-11	METAL CHIP 27K 0.5%	1/10W
R709	1-216-689-11	METAL CHIP 39K 0.5%	1/10W
R710	1-216-681-11	METAL CHIP 18K 0.5%	1/10W
R711	1-216-673-11	METAL CHIP 8.2K 0.5%	1/10W
R712	1-216-685-11	METAL CHIP 27K 0.5%	1/10W
R713	1-216-689-11	METAL CHIP 39K 0.5%	1/10W
R714	1-216-663-11	METAL CHIP 3.3K 0.5%	1/10W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV101	1-230-875-21	RES, ADJ, METAL 220K	
RV102	1-230-875-21	RES, ADJ, METAL 220K	
RV103	1-230-871-11	RES, ADJ, METAL 22K	
RV104	1-230-871-11	RES, ADJ, METAL 22K	
RV105	1-230-870-11	RES, ADJ, METAL 10K	
RV106	1-230-870-11	RES, ADJ, METAL 10K	
RV201	1-230-873-11	RES, ADJ, METAL 47K	
RV203	1-230-869-11	RES, ADJ, METAL 4.7K	
RV204	1-230-869-11	RES, ADJ, METAL 4.7K	
RV301	1-230-868-11	RES, ADJ, METAL 2.2K	
RV302	1-230-868-11	RES, ADJ, METAL 2.2K	
RV303	1-230-869-11	RES, ADJ, METAL 4.7K	
RV304	1-230-873-11	RES, ADJ, METAL 47K	

< CRYSTAL >

Ref. No.	Part No.	Description	Remark
X001	1-577-116-21	CRYSTAL (16MHz)	
X002	1-567-346-11	OSCILLATOR, CERAMIC (5MHz)	
X003	1-567-346-11	OSCILLATOR, CERAMIC (5MHz)	
X004	1-567-160-21	RESONATOR, CERAMIC (4.19MHz)	
X101	1-567-504-81	OSCILLATOR, CRYSTAL (4.433619MHz)	

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* 1-633-699-11 TC-20 BOARD

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< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C701	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V
C702	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V
C703	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V
C704	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V
C705	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V
C706	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V
C707	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V
C708	1-135-162-21	TANTALUM CHIP 33uF	20% 6.3V

< DIODE >

Ref. No.	Part No.	Description	Remark
D701	8-719-918-70	DIODE LB-202DB	
D702	8-719-918-70	DIODE LB-202DB	
D703	8-719-918-70	DIODE LB-202DB	
D704	8-719-918-70	DIODE LB-202DB	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q701	8-729-140-88	TRANSISTOR FP1A3M	
Q702	8-729-140-88	TRANSISTOR FP1A3M	
Q703	8-729-140-88	TRANSISTOR FP1A3M	
Q704	8-729-140-88	TRANSISTOR FP1A3M	
Q705	8-729-140-88	TRANSISTOR FP1A3M	
Q706	8-729-140-88	TRANSISTOR FP1A3M	
Q707	8-729-140-88	TRANSISTOR FP1A3M	
Q708	8-729-140-88	TRANSISTOR FP1A3M	
Q709	8-729-900-53	TRANSISTOR DTC114EK	
Q710	8-729-900-53	TRANSISTOR DTC114EK	
Q711	8-729-900-53	TRANSISTOR DTC114EK	
Q712	8-729-900-53	TRANSISTOR DTC114EK	
Q713	8-729-900-53	TRANSISTOR DTC114EK	
Q714	8-729-900-53	TRANSISTOR DTC114EK	
Q715	8-729-900-53	TRANSISTOR DTC114EK	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R701	1-216-013-00	METAL CHIP 33 5%	1/10W
R702	1-216-013-00	METAL CHIP 33 5%	1/10W
R703	1-216-013-00	METAL CHIP 33 5%	1/10W
R704	1-216-013-00	METAL CHIP 33 5%	1/10W
R705	1-216-013-00	METAL CHIP 33 5%	1/10W
R706	1-216-013-00	METAL CHIP 33 5%	1/10W
R707	1-216-013-00	METAL CHIP 33 5%	1/10W
R708	1-216-013-00	METAL CHIP 33 5%	1/10W
R709	1-216-029-00	METAL CHIP 150 5%	1/10W
R710	1-216-029-00	METAL CHIP 150 5%	1/10W
R711	1-216-029-00	METAL CHIP 150 5%	1/10W
R712	1-216-029-00	METAL CHIP 150 5%	1/10W
R713	1-216-029-00	METAL CHIP 150 5%	1/10W
R714	1-216-029-00	METAL CHIP 150 5%	1/10W
R715	1-216-029-00	METAL CHIP 150 5%	1/10W

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* 1-633-700-11 TR-40 BOARD

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< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN401	1-506-484-11	CONNECTOR 5P, MALE	
CN402	1-506-487-11	CONNECTOR 8P, MALE	

Ref. No.	Part No.	Description	Remark
CN403	1-506-481-11	CONNECTOR 2P, MALE	

< JACK >

Ref. No.	Part No.	Description	Remark
J401	1-566-847-41	CONNECTOR, (S) TERMINAL 4P(S VIDEO OUT)	
J402	1-566-847-41	CONNECTOR, (S) TERMINAL 4P (S VIDEO IN)	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV401	1-230-694-11	RES, VAR, CARBON 250K	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S401	1-553-725-21	SWITCH, SLIDE (SYNC INT/EXT)	
S402	1-553-725-21	SWITCH, SLIDE (EDIT)	

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* A-7070-628-A TS-74 (LEFT) BOARD, COMPLETE
****

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q715	8-729-700-11	TRANSISTOR NJL7141E	

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* A-7070-627-A TS-74 (RIGHT) BOARD, COMPLETE
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< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q715	8-729-700-11	TRANSISTOR NJL7141E	

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MISCELLANEOUS
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Ref. No.	Part No.	Description	Remark
51 ⚠	1-413-629-11	POWER BLOCK	
56 *	1-536-977-11	TERMINAL BOARD UNIT, CONTROL	
360	1-535-535-11	TERMINAL, SHAFT GROUND	
C901	1-161-057-00	CERAMIC 0.033uF 10% 50V	
C902	1-161-057-00	CERAMIC 0.033uF 10% 50V	
M902	8-835-304-11	MOTOR, DC U-11B (REEL)	
M903	8-835-364-01	MOTOR, DC BHF-2802B (CAPSTAN)	
M904	X-3711-936-1	MOTOR ASSY, FL (CASSETE COMPARTMENT)	
M905	8-835-138-01	MOTOR, DC (DNR-5301B) (CONTROL)	
M906	A-7040-065-A	MOTOR ASSY, L (CASSETE LOADING)	
M907	1-541-360-21	MOTOR, DC BLUSHLESS FAN	
PM901 ⚠	1-454-377-31	SOLENOID, PLUNGER	
S901	1-570-407-11	SWITCH, SLIDE (CASSETE COMPARTMENT)	
S903	1-553-226-00	SWITCH, LEAF (CASSETE LOCK)	
S904	1-572-298-21	SWITCH, PUSH (REC PROOF, MPHG, ME/MP)	

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ACCESSORY & PACKING MATERIAL
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Ref. No.	Part No.	Description	Remark
⚠	1-590-278-11	CORD SET, POWER	
*	3-697-977-31	INDIVIDUAL CARTON	
*	3-697-978-01	CUSHION (UPPER)	
*	3-697-979-01	CUSHION (LOWER)	
	3-701-630-00	BAG, POLYETHYLENE	
*	3-704-350-01	SHEET (STANDARD), PROTECTION	
	3-751-298-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN)	
	3-751-298-41	MANUAL, INSTRUCTION (ENGLISH)	
	3-751-298-51	MANUAL, INSTRUCTION (FRENCH)	

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HARDWARE LIST
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Ref. No.	Part No.	Description	Remark
# 1	7-621-255-45	SCREW +BVTT 2X6 (S)	
# 2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
# 3	7-682-555-09	SCREW +P 3X30	
# 4	7-627-850-18	SCREW, PRECISION +P 1.4X2.5	
# 5	7-621-772-10	SCREW +B 2X4	
# 6	7-621-255-65	SCREW +P 2X10	
# 7	7-627-553-28	SCREW, PRECISION +P 2X2.5	
# 8	7-621-255-25	SCREW +P 2X4	
# 9	7-624-102-04	STOP RING 1.5, TYPE -E	
#10	7-624-105-04	STOP RING 2.3, TYPE -E	
#11	7-628-253-20	SCREW +PS 2X6	
#12	7-628-253-00	+PSW 2X4	
#13	7-627-553-48	SCREW, PRECISION +P 2X4	
#14	7-621-255-50	SCREW +P 2X8	
#15	7-624-106-04	STOP RING 3.0, TYPE -E	
#16	7-627-553-68	SCREW (+-M2X6), SPECIAL	

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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 7

MECHANICAL ADJUSTMENT

7-1. PERIODIC CHECK AND MAINTENACE

It is recommended that the following periodic check and maintenance schedule are employed in order to obtain maximum performance of the unit and longer tape life.

7-1-1. MAINTENANCE AFTER REPAIRS

Perform the following maintenance after repair regardless the operating hours of the unit.

(1) Cleaning of the Rotary Upper Drum

- Press the cleaning piece moistend with cleaning fluid lightly against the Rotary Upper Drum and turn slowly the Upper Drum counterclockwise with a hand.

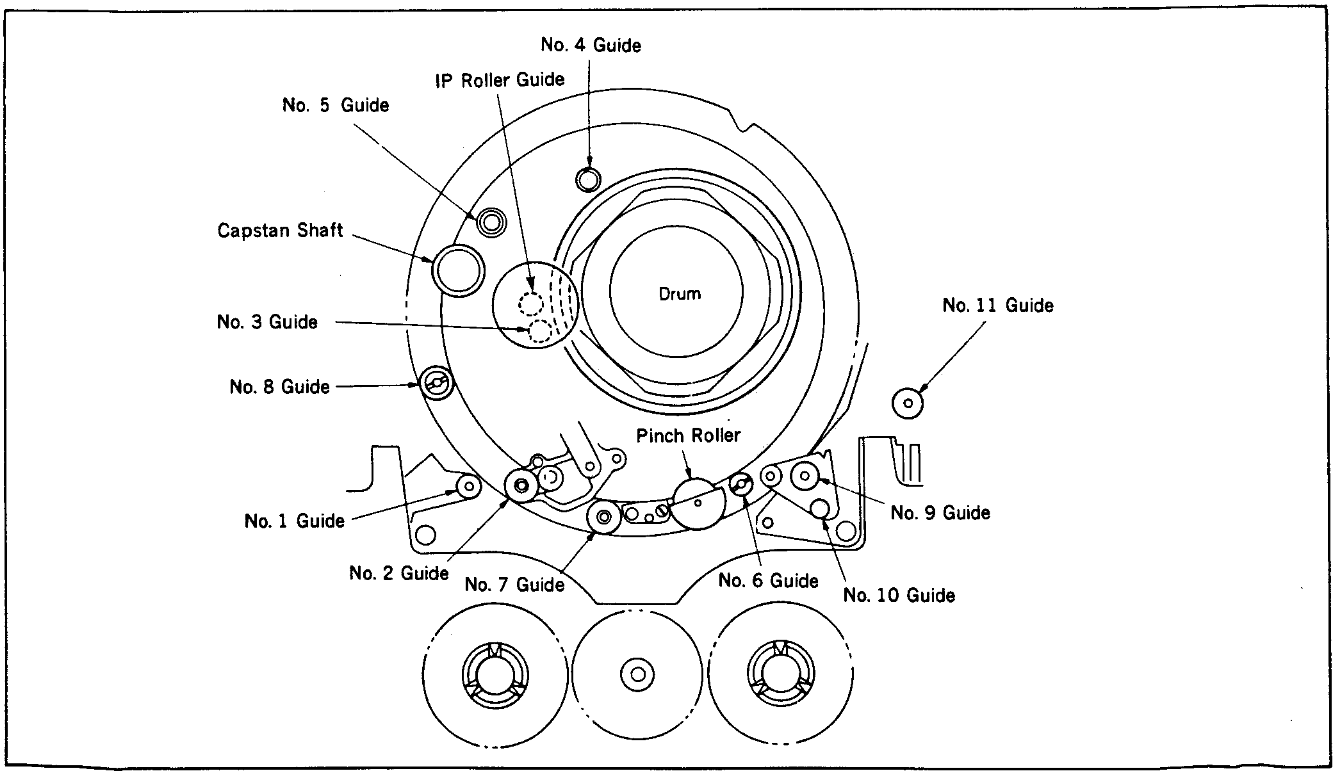
  Note: Never turn the Upper Drum by the electric power and never turn the Upper Drum clockwise with a hand. Never move the cleaning piece in the veritical direction of head tips in the cleaning. It tends to damage the video head tips. Please follow the instruction above for cleaning.

2) Cleaning of Tape Running System (fig.1)

- Put the cassette compartment into the EJECT completion mode and clean the tape running system (No.1 thru No.11 Guides, Capstan Shaft, Pinch Rolloer and IP Roller Guide) with cleaning piece moistend with the clearning the fluid.

(3) Cleaning of Drive System

- Clean the Drive system (reel table surface, belt and timing belt) with cleaning piece moistend with the cleaning fluid.


No. 4 Guide
IP Roller Guide
No. 5 Guide
Capstan Shaft
Drum
No. 3 Guide
No. 11 Guide
No. 8 Guide
Pinch Roller
No. 1 Guide
No. 9 Guide
No. 2 Guide
No. 7 Guide
No. 6 Guide
No. 10 Guide

7-1-2. PERIODIC CHECK

Perform the maintenance and periodic checks described below in accordance with the operational hour of the unit.

○: Cleaning ◆: Replacement ◇: Checking ■: Oiling

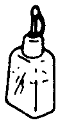
Location			Hours of Use (H)										Reference Section
	Parts Name	Parts No.	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
Tape Path	Tape Path surface	–	○	○	○	○	○	○	○	○	○	○	7-1-1
	Upper Drum Ass'y (DGR-68-R)	A-7049-328-A	○	◇	○	◇	○	◇	○	◇	○	◇	7-2-2
	Drum Ass'y (DGH-68A-R)	A-7048-389-A	○	◇	○	◇	○	◇	○	◇	○	◇	7-2-3
	Pinch Roller Arm Ass'y	X-3686-648-1	○	○	○	○	○	○	○	○	○	○	7-2-5
	(Note 4:) Capstan shaft bearing	8-835-364-01	–	■	–	■	–	■	–	■	–	■	——
Drive System	Threading motor belt	3-686-546-01	○	○	○	○	○	○	○	◆	○	○	7-2-7
	Blake plunger	1-454-377-31	–	–	–	○	–	–	–	○	–	–	7-2-20
	Threading motor	A-7040-065-A	–	◇	–	◇	–	◇	–	◇	–	◇	7-2-7
	Control motor	8-835-138-01	–	◇	–	◇	–	◇	–	◇	–	◇	7-2-21
	Reel motor	8-835-304-11	–	◇	–	◇	–	◇	–	◇	–	◇	7-2-8
	T Reel Table Ass'y	X-3711-998-1	○	○	○	○	○	○	○	○	○	○	7-2-14
	S Reel Table Ass'y	X-3713-427-1	○	○	○	○	○	○	○	○	○	○	7-2-13
	T•Main Brake Ass'y	X-3686-574-1	–	◇	–	◇	–	◇	–	◇	–	◇	——
	S•Main Brake Ass'y	X-3713-429-1	–	◇	–	◇	–	◇	–	◇	–	◇	——
	T•S Brake Ass'y	X-3711-987-2	–	◇	–	◇	–	◇	–	◇	–	◇	——
	REW Brake Ass'y	X-3711-993-1	–	◇	–	◇	–	◇	–	◇	–	◇	——
	Tension Regulator Band Ass'y	X-3686-531-1	–	◇	–	◇	–	◇	–	◇	–	◇	7-2-16
	Roller (Cassette-up Compartment)	3-713-466-01	–	–	–	–	–	○	–	–	–	–	——
Performance Check	Abnormal-noise	–	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	——
	FWD Back tension measurement	–	–	◇	–	◇	–	◇	–	◇	–	◇	7-3-5
	Brake torque measurement	–	–	◇	–	◇	–	◇	–	◇	–	◇	7-3-1 to 7-3-3
	FWD, RVS torque measurement	–	–	◇	–	◇	–	◇	–	◇	–	◇	7-3-4

Note 1: When overhauling the unit, refer to the items above for replacement of parts.
Note 2: The time of parts replacement will differ with operating environment
Note 3: Be sure to clean the tape path surface in repairing.
Note 4: Oiling to the Capstan Shaft Bearing.
Apply one-half drop of oil to the Capstan Shaft Bearing.
(Never apply oil to the tape path surface.)

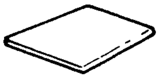
7-1-3. SERVICING TOOLS

Ref. No.	Parts No.	Description	Application
J-1	Y-2031-001-1	Cleaning Fluid	Cleaning
J-2	7-741-900-53	Wiping Cloth	Cleaning
J-3	Commercially sold	Head Degausser	Head degauss
J-4	J-6080-840-A	Small Adjustment Mirror	Tape path adjustment
J-5	8-967-995-07	Alignment Tape, WR5-1CP	Tape path adjustment
	8-967-995-18	Alignment Tape, WR5-7CE	Video frequency response adjustment
	8-967-995-47	Alignment Tape, WR5-5CSP	Video adjustment
	8-967-995-48	Alignment Tape, WR5-8CSE	Servo, audio and video adjustment (SP)
	8-967-995-57	Alignment Tape, WR5-8CLE	Servo, audio and video adjustment (LP)
J-6	J-6080-827-A	Dial Tension Gauge	Measurement of torque
J-7	J-6080-831-A	Tension Measurement Reel	FWD Back tension adjustment
J-8	J-6080-832-A	Tension Measurement Reel	Brake torque check
J-9	J-6080-823-A	No. 10 Gear Phase Tool	Threading ring assembly replacemnt
J-10	J-6080-826-A	No. 6 Guide Lock Screwdriver	Tape path adjustment
J-11	——	Rotary Drum Tool (packed with the Rotary Upper Drum for repair)	Rotary upper drum replacement
J-12	J-6080-824-A	FWD, RVS Winding Torque Cassette	S•T reel table winding torque check
J-13	J-6080-825-A	Mode Selector	Mechanical check, adjustment and replacement
J-14	J-6080-891-A	Track Shift Tool	Tape path adjustment
J-15	J-6080-883-A	RE/SWP Connector	Tape path adjustment
J-16	J-6080-884-A	CTL Connector	Tape path adjustment
J-17	7-700-766-01	Hexagonal Screwdriver (0.89 mm)	Tape path adjustment

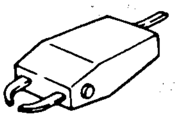
J-1



J-2



J-3



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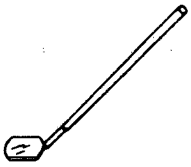

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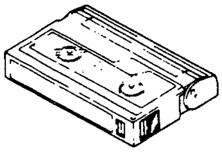
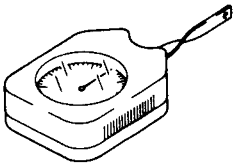
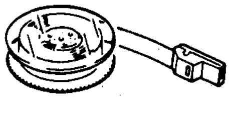


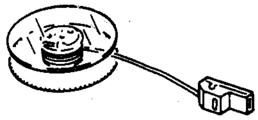
J-6



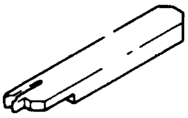
J-7



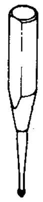
J-8



J-9

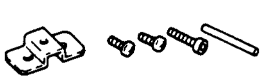


J-10

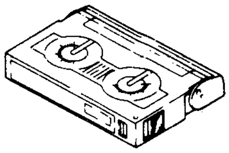


J-11

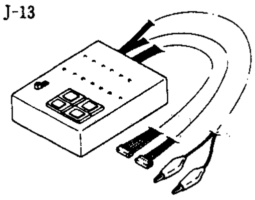
(Packed with the rotary upper drum for repair)



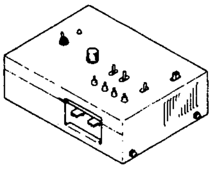
J-12



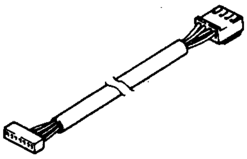
J-13



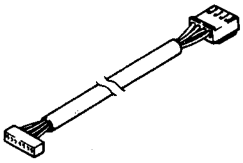
J-14



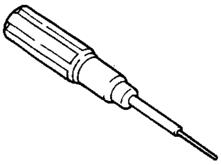
J-15



J-16



J-17



7-1-4. HOW TO USE THE CLEANING TAPE

Cleaning Tape: V8-25CLH (separately available)

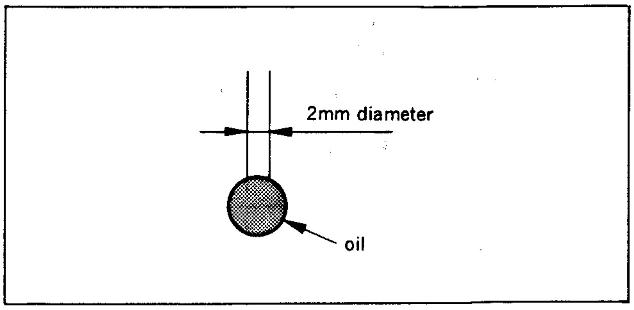
. Never use the cleaning tape, V8-25CLN.

(1) When the rotary heads clog and head cleaning descrived Section 3-1 can not clean the heads, use the cleaning tape.
If use the cleaning tape except for the above, it will shorten the life of the heads.
(2) The one time cleaning is within fifteen seconds and never reuse the cleaning tape after rewinding.

7-1-5. OTHERS

(1) Sony oil

- Be sure to use the Sony oil as the lubrication oil. (If other oil is useed, various troubles due to different viscosity tends to be caused.)
  Sony oil: Part No. 7-661-018-18
- Use the Sony oil in which dust or other foreign material have not mixed for lubricating the bearing. (If foreign material is in the oil, wear or burning of the bearing tends to be caused.)
- One drop of oil means the amount which sticks to a 2 mm diameter rod, as shown in the figure.



(2) Sony grease

- Be sure to use the Sony grease as the lubrication grease.
  Sony grease: Part No. 7-662-001-62
  (SGL-501)

(3) MOLYTONE GREASE

- Be sure to use the MOLYTONE GREASE as the lubrication grease.
  MOLYTONE GREASE: Part No. 7-662-001-41
  (No. 320)

7-2. REPLACEMENT OF MAJOR PARTS

PREPARATION FOR REPLACEMENT OF PARTS

Replacement of some parts use the *Mode Selector. The mode (☐ marked mode) in the replacement procudure is set by pressing the button on the Mode Selector.

*It is a kind of tool.
Part No. : J-6080-825-A

. **Operation of Mode selector**

1. Location of parts and controls (fig. 1)
2. Connection (fig. 2)

(1) Remove the Front Panel, Top Plate and Bottom Plate referring to Section 2-1.

(2) Remove the Mecha Deck Block from the unit referring to Section 2-5.

(3) Remove the MB-19, MD-23, HK-5 and SE-10 Boards from the unit referring to Sections 2-8, 2-9 and 2-10.

(4) Disconnect the connectors (6P) on the MS-4 and LS-9 Boards.

(5) Connect the 6P connector (six harness, white) for the M-switch of the Mode Selector to the MS-4 Board.

(6) Connect the 6P connector (four harness, black) for the L-switch of the Mode Selector to the LS-9 Board.

(7) Remove the cover of the Threading Motor.

(8) Connect the red clip of the Threading Motor driver lead to the red terminal of the Threading Motor and the black clip to the brown terminal.

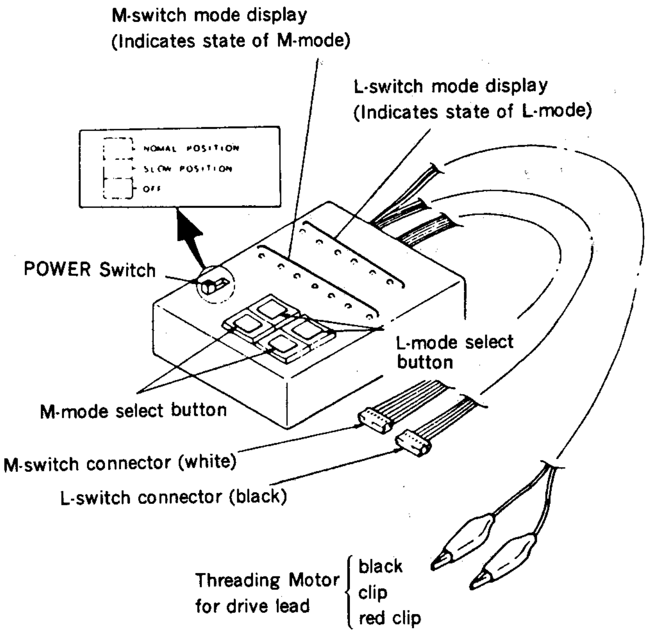

M-switch mode display
(Indicates state of M-mode)
L-switch mode display
(Indicates state of L-mode)
NOMAL POSITION
SLOW POSITION
OFF
POWER Switch
L-mode select button
M-mode select button
M-switch connector (white)
L-switch connector (black)
Threading Motor for drive lead
black clip
red clip

Fig. 1

3. Note

(1) When operating L-switch, be sure to set the mode of M-switch to LOADING/ UNLOADING mode.

(2) When operating M-switch, be sure to set the mode of L-switch to LOADING TOP or LOADING END mode.

4. Operation

When L-mode or M-mode does not set in each mode during mode selection, the BLANK position lights up.

(1) L-mode

- When the right side L-mode select button is pressed continuously, the mode changes from LOADING TOP to LOADING END in order from left.
- When the mode changes from LOADING END to LOADING TOP in order, press the left side L-mode select button cotinuously.
- When the power switch is set to the SLOW position, the L-mode operates more slowly than the NORMAL position.

(2) M-mode

- When performing EJECT, set the mode of L-switch to LOADING TOP.
- When performing from FF/REW to RVS or from RVS to FF/REW, set the mode of L-switch to LOADING END.
- When the right side M-mode select button is pressed continuously, the mode changes from EJECT to RVS in order from left.
- When the mode changes from RVS to EJECT, press the left side M-mode select button continuously.

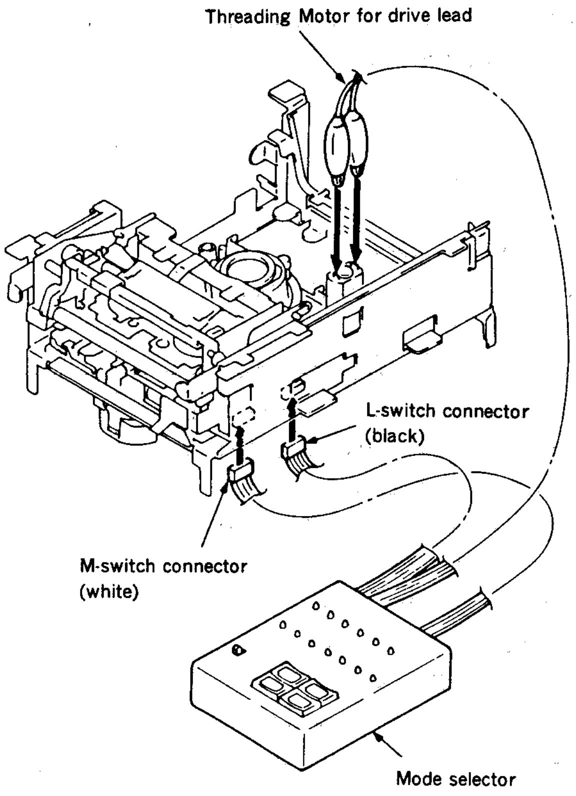


Fig. 2

7-2-1. REPLACEMENT OF THE FLY WHEEL

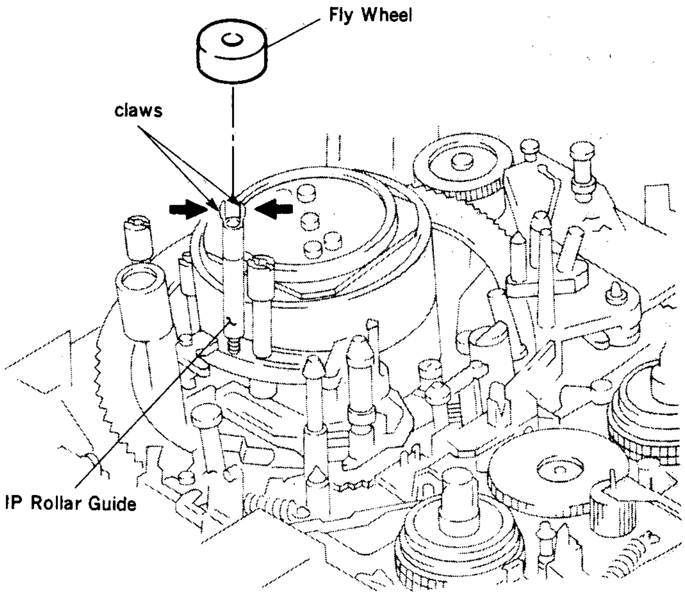
Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Remove the Fly Wheel while picking the claws.

Installation:

(1) Replace the Fly Wheel with a new one. Insert the Fly Wheel in the IP Rollar Guide from the big hole side until click sound can be heard.


Fly Wheel
claws
IP Rollar Guide

7-2-2. REPLACEMENT OF THE ROTARY UPPER DRUM

. The video heads can not be replaced as a single parts. Replace the whole Rotary Upper Drum Assembly.

. There is a relay PC Board (DH-6 Board) for the video and audio signals in the Rotary Upper Drum. It is not necessary to replace the DH-6 Board, if it is broken, replace the whole the Rotary Upper Drum Assembly.

Tools: Rotary Drum Tool (Ref No. J-11)
(It is packed together with the Repair Rotary Upper Drum.)
L-shaped wrench
(across flat has 1.5 mm)

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Remove the Fly Wheel reffering to Section 7-2-1.

(3) Remove the two screws (M2 X 2.7) and remove the Dynamic Damper.

(4) Unsolder the ten terminals at A positions. Check that the terminals which are projected out from the PC Board move freely with a pair of tweezers, etc. (fig. 1)

(5) Remove the two screws (M2 X 5).

(6) Install the tool A to the two screw holes of installing the Dynamic Damper with the two accessory supplied screws. Thread the accessory supplied hexagon screw into the center hole of the tool A, and remove the Rotary Upper Drum. (fig. 2)

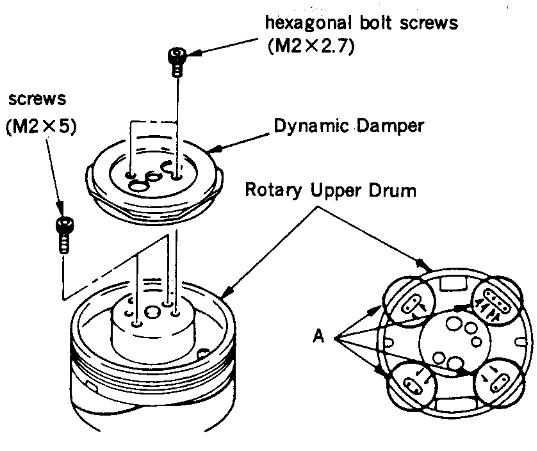

hexagonal bolt screws
(M2×2.7)
screws
(M2×5)
Dynamic Damper
Rotary Upper Drum
A

Fig. 1

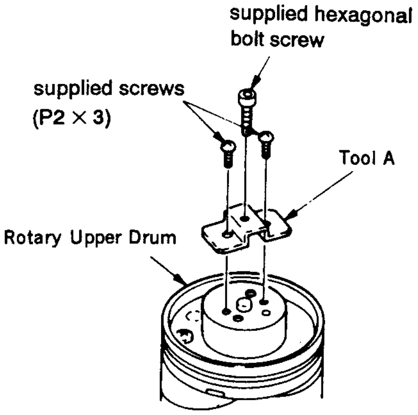

supplied hexagonal
bolt screw
supplied screws
(P2 × 3)
Tool A
Rotary Upper Drum

Fig. 2

Installation:

(1) Clean the flange surface of the Lower Drum and the contact point of the new Rotary Upper Drum with a cleaning piece. Check that no dust or flaw are left.

(2) While adjusting the positional relationship of the Rotary Upper Drum and positioning hole with the tool B, insert the Rotary Upper Drum lightly. At this time, Check that the terminals project out from the PC Board of the Rotary Upper Drum. When the terminals are caught, correct them with a pair of tweezers, etc.. Remove the tool B and lightly push the Rotary Upper Drum by hand. If the Rotary Upper Drum does not down to the botom, thread the two fixing screws to the Rotary Upper Drum alternately, but do not tighten them. Insert the tool B in the positioning hole and check that the tool B can be inserted smoothly again. If the tool B can not be inserted, loosen the two screws (M 2 X 5) and adjust the position of the Rotary Upper Drum by precision screwdriver. (fig. 3 and 4)

(3) Tighten the two screws (M2 X 5).

(4) Assemble the parts with Removal Steps (1) to (4) in reverse order.

Note: . Do not tighten all the screws too strongly.

. Be carefull not to flow solder below the PC Board.

After replacement, perform the Tape Path Adjustment referring to Section 7-4.

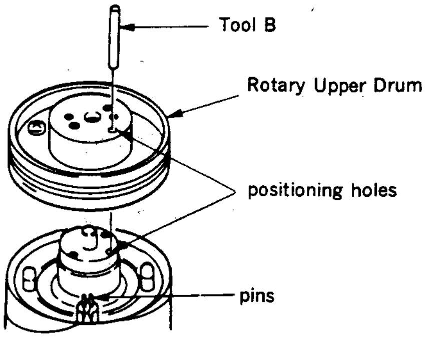


Fig. 3

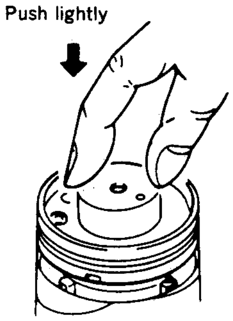


Fig. 4

7-2-3. REPLACEMENT OF THE DRUM ASSEMBLY

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(3) Remove the Fly Wheel referring to Section 7-2-1.

(4) Open the HK-5 and SE-10 Boards referring to Sections 2-9 and 2-10.

(5) Remove the two fixing screws and remove the Flexible Cover. (fig. 1)

(6) Disconnect the connectors (CN805, 806) on the MD-23 Board and disconnect the connector (CN001) on the FR-43 Board.

(7) Remove the fixing screw and remove the Shaft Ground Terminal.

(8) Remove the two fixing screws and remove the Drum Assembly. (fig. 2)

Note: At this time, be careful that the Drum Assembly does not touch the No. 3 Guide and the IP Roller Guide, etc..

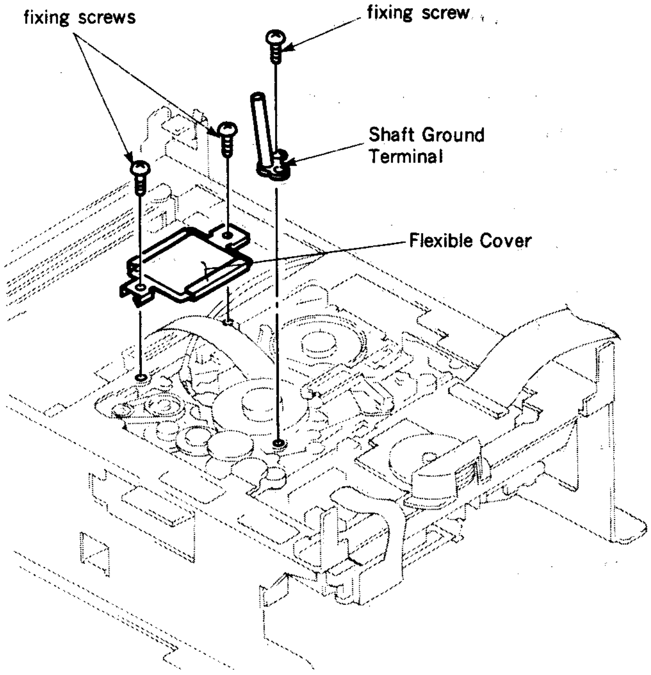

fixing screws
fixing screw
Shaft Ground Terminal
Flexible Cover

Fig. 1

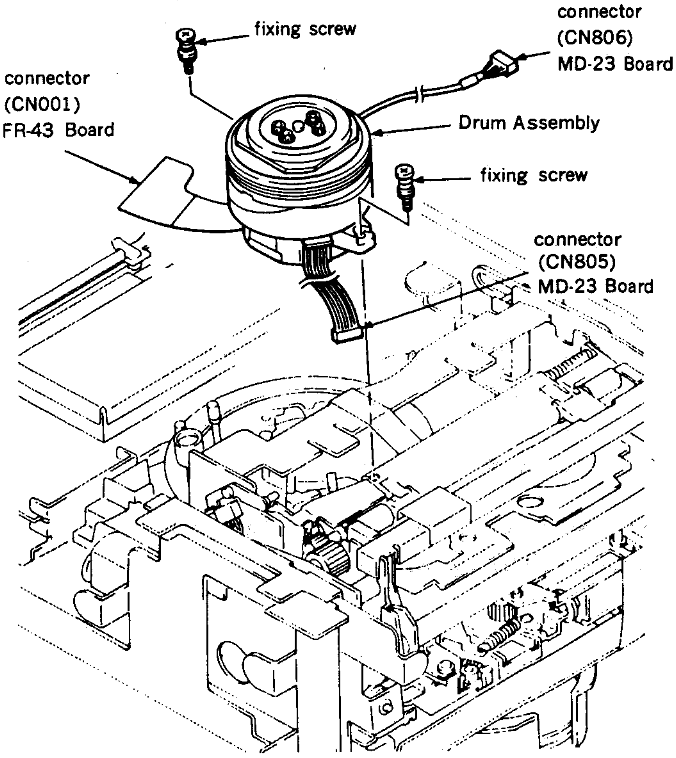

fixing screw
connector (CN806) MD-23 Board
connector (CN001) FR-43 Board
Drum Assembly
fixing screw
connector (CN805) MD-23 Board

Fig. 2

Installation:

(1) Clean the flange surface of the new Drum Assembly and the contact point of the mechanical chassis with a cleaning piece.

(2) Set the Drum Assembly to the two projections of the Mecha chassis and tighten the two fixing screws.

Note: At this time, be careful that the screwdriver does not touch the head chips. (fig. 3)

(3) Peel off the tape from the Rotor and FG Stator of the Drum Assembly.

(4) Clean the shaft of the Drum Assembly with a cleaning piece.

(5) Clean the Shaft Ground Terminal which contact to the Drum Shaft with a cleaning piece and set the Shaft Ground Terminal to the projection of mechanical chassis and tighten the fixing screw.

(6) Assemble the parts with Removal Steps (1) to (6) in reverse order.

After replacement, perform the Tape Path Adjustment referring to Section 7-4.

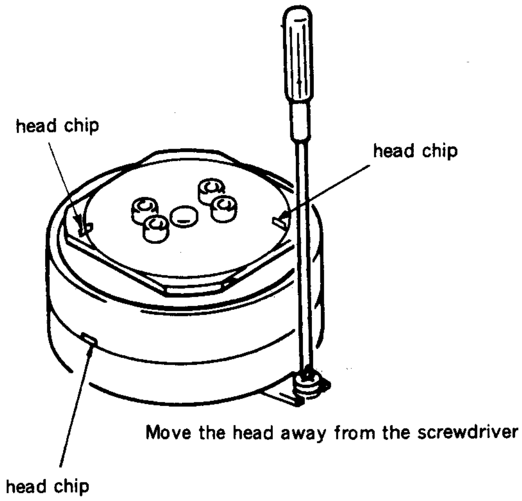


Fig. 3

7-2-4. REPLACEMENT OF THE THREADING RING ASSEMBLY

Tools: Mode Selector (Ref. No. J-13)
No. 10 Gear Phase Tool
(Ref. No. J-9)
Sony Oil

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Press the L-mode select button of the Mode Selector and move the Guide Base Assembly and the No. 2 Guide Assembly until just before it is locked. (Do not move the Threading Ring Assembly.)

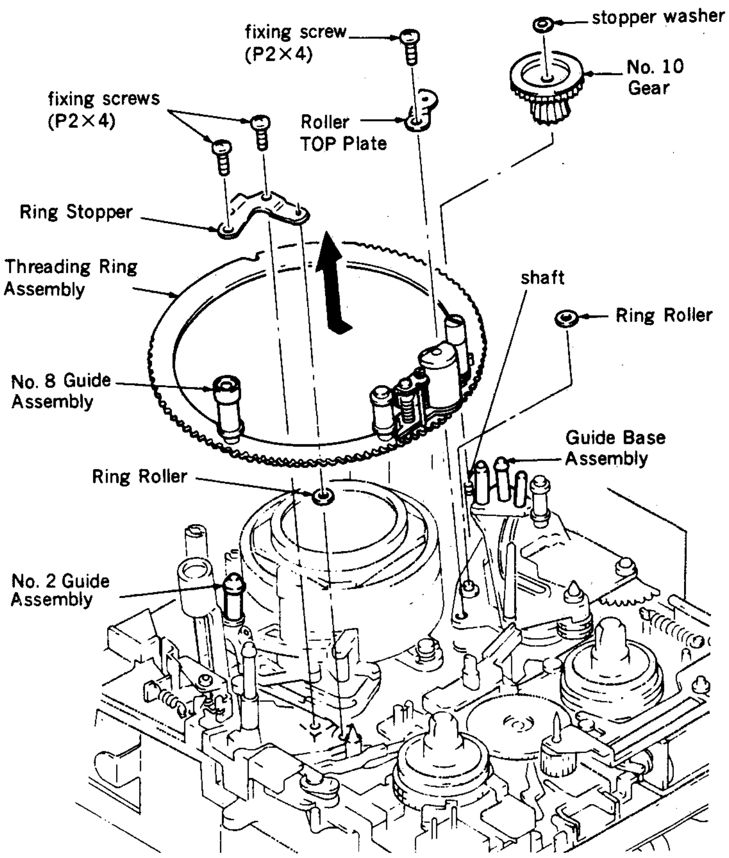
(3) Remove the stopper washer and remove the No. 10 Gear Assembly.

(4) Remove the fixing screw and remove the Roller Top Plate and Ring Roller.

(5) Remove the two fixing screws and remove the Ring Stopper and Ring Roller.

(6) Remove the Threading Ring Assembly in the direction of the arrow.

Note: When removing the Threading Ring Assembly, be careful that the Threading Ring Assembly does not touch the Drum and Capstan Shaft.


fixing screw
(P2×4)
stopper washer
No. 10
Gear
fixing screws
(P2×4)
Roller
TOP Plate
Ring Stopper
Threading Ring
Assembly
shaft
Ring Roller
No. 8 Guide
Assembly
Guide Base
Assembly
Ring Roller
No. 2 Guide
Assembly

Installation:

(1) Replace the Threading Ring Assembly with a new one.

(2) Install the Threading Ring Assembly so that it puts into the unthreading mode. The Pinch Roller Arm Assembly is the Reel Table side. (Check that each assembly is put into the Step (2) at removal procedure.)

(3) Install the Ring Roller and Ring Stopper and tighten them with two fixing screws. (Check that the No. 8 Guide Assembly is in front of Ring Stopper.)

(4) Install the Ring Roller and Roller Top Plate and tighten them with the screw. (Check that the Threading Ring Assembly matches the three Ring Rollers.)

(5) Apply a half drop of oil on the shaft.

(6) Check that the pin of the Drive Changer Assembly is into the notch of the L-switch Assembly. Insert the No. 10 Gear Phase Tool (Ref. No. J-9) into the notch of the L-SW Assembly.

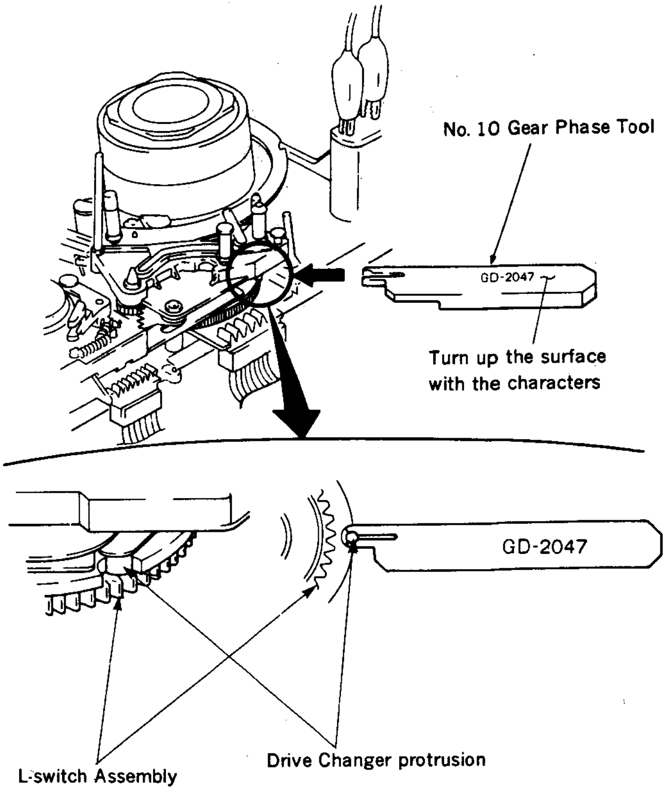
(7) While pushing the No. 8 Guide Assembly against the Ring Stopper, install the No.10 Gear Assembly with a stopper washer.

(8) Pull out the No. 10 Gear Phase Tool.

(9) Press the L-mode select button of the Mode Selector and set to the LOADING TOP mode.

(10) Install the Cassette-up Compartment Assembly referring to Section 2-13.

After replacement, perform the Tape Path Adjustment referring to Section 7-4.



7-2-5. REPLACEMENT OF THE PINCH ROLLER ARM ASSEMBLY

Removal:

(1) Open the MB-19 Board referring to Section 2-8.
(2) Remove the Cassette-up Compartment Assembly referring to Section 2-13.
(3) Remove the stopper washer. (fig. 1)
(4) Hook the spring which is hooked to the No. 7 Guide Assembly to the groove of the Pinch Roller Arm (fig. 2)
(5) Turn the Pinch Roller Arm Assembly in the direction of the arrow. (fig. 3)
(6) Remove the Pinch Roller Arm Assembly in the direction of the arrow. (fig. 4)
(7) Remove the spring. (fig. 5)

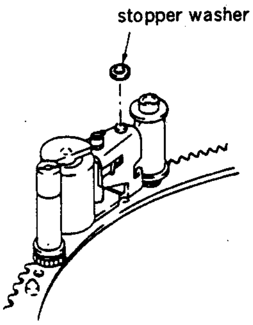

stopper washer

Fig. 1

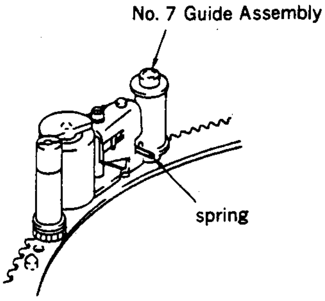

No. 7 Guide Assembly
spring

Fig. 2

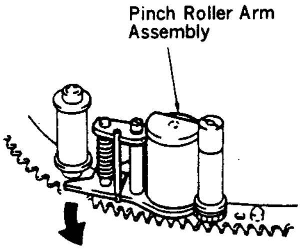

Pinch Roller Arm Assembly

Fig. 3

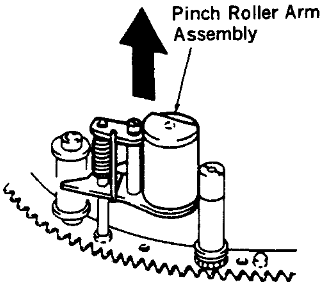

Pinch Roller Arm Assembly

Fig. 4

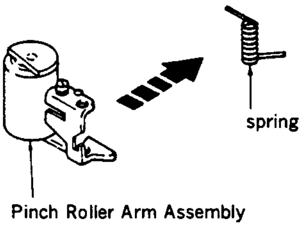

spring
Pinch Roller Arm Assembly

Fig. 5

Installation:

(1) Replace the Pinch Roller Arm Assembly with a new one.

(2) Install the spring and hook the ends of the spring to the Pinch Roller Arm Assembly. (fig. 1)

(3) Insert the end of the clip or another thin rod into the hole of the Pinch Roller Arm Assembly. (fig. 2 and 3)

(4) Put the end of the clip to the shaft of the Threading Ring Assembly and install the Pinch Roller Assembly. (fig. 4 and 5)

(5) Hook the end of the spring to the No. 7 Guide Assembly.
At this time, check that the another end of the spring is hooked to "A". (fig. 6)

(6) Assemble the parts with Removal Steps (1) to (3) in reverse order.

After replacement, perform the Tape Path Check referring to Section 7-4-6.

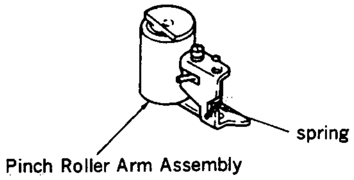

spring
Pinch Roller Arm Assembly

Fig. 1

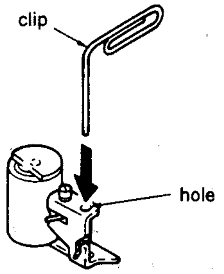


Fig. 2

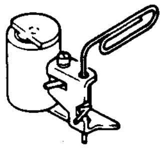


Fig. 3

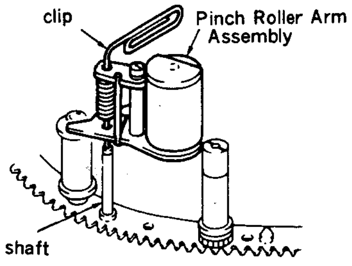

clip
Pinch Roller Arm Assembly
shaft

Fig. 4

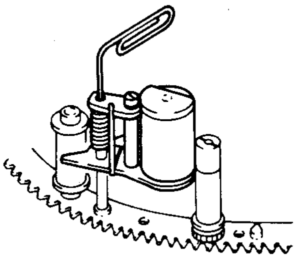


Fig. 5

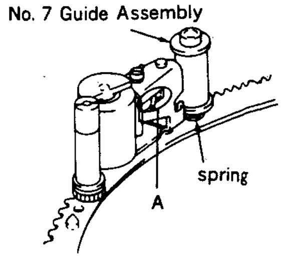

No. 7 Guide Assembly
spring
A

Fig. 6

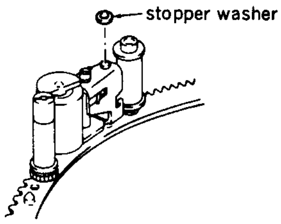

stopper washer

Fig. 7

7-2-6. REPLACEMENT OF THE CAPSTAN MOTOR

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(3) Remove the Threading Ring Assembly referring to Section 7-2-4.

(4) Open the HK-5 and SE-10 Boards referring to Sections 2-9 and 2-10.

(5) Remove the two fixing screws and remove the Flexible Cover.

(6) Remove the harness of the Capstan Motor from the Wire Holder.

(7) Remove the fixing screw and remove the Wire Holder.

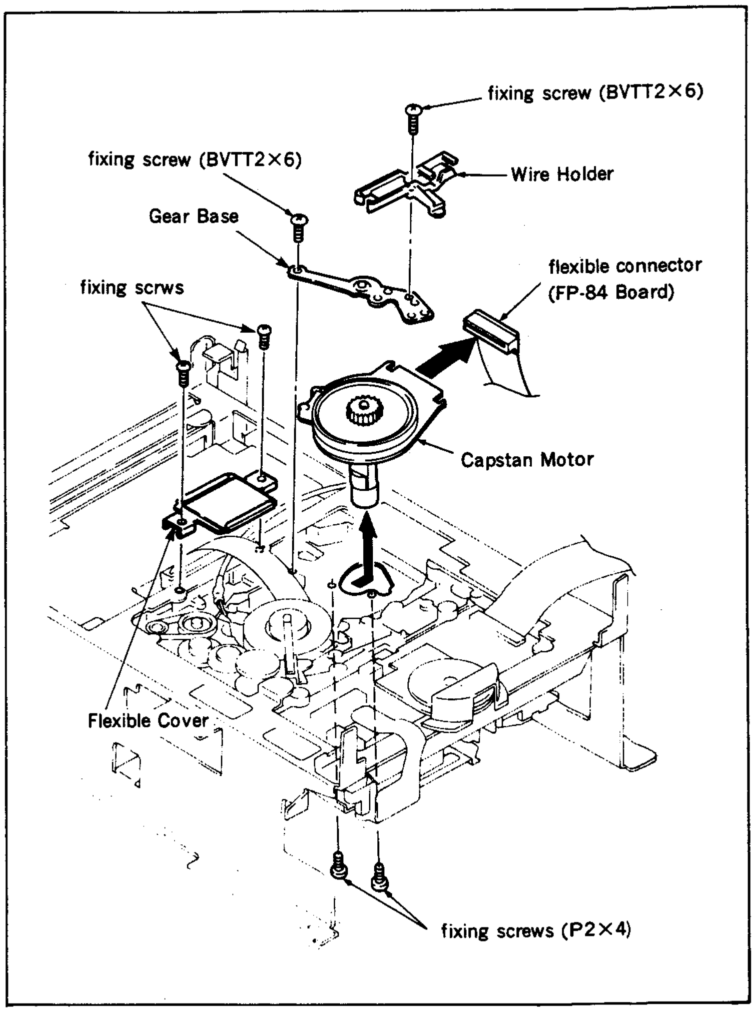
(8) Remove the fixing screw and remove the Gear Base.

(9) Disconnect the flexible connector of the Capstan Motor.

(10) Remove the two fixing screws and remove the Capstan Motor in the direction of the arrow.

Installation:

(1) Replace the Capstan Motor with a new one and assemble the parts with Removal Steps (1) to (10) in reverse order.


fixing screw (BVTT2×6)
fixing screw (BVTT2×6)
Wire Holder
Gear Base
flexible connector (FP-84 Board)
fixing scrws
Capstan Motor
Flexible Cover
fixing screws (P2×4)

7-2-7. REPLACEMENT OF THE THREADING MOTOR ASSEMBLY

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Open the HK-5 and SE-10 Boards referring to Section 2-9 and 2-10.

(3) Remove the L Motor Belt.

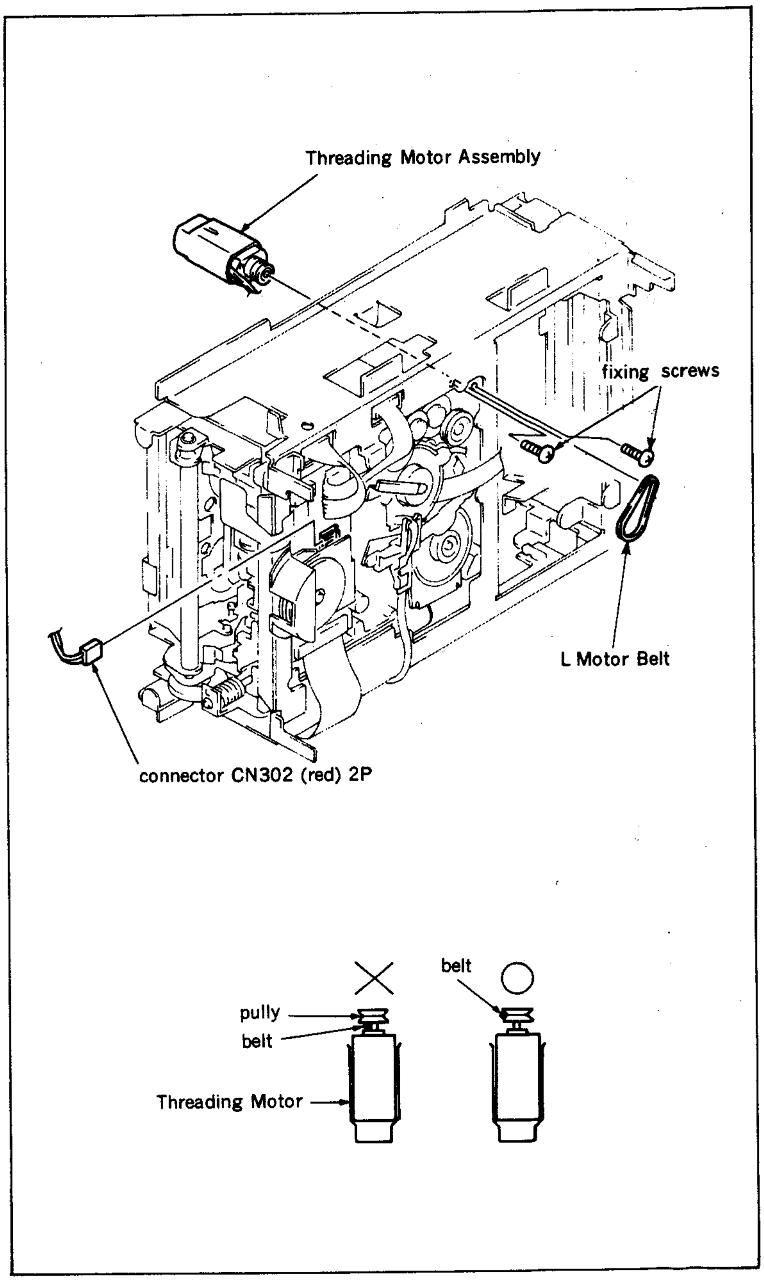
(4) Disconnect the connector (CN302) on the RS-31 Board.

(5) Remove the two fixing screws and remove the Threading Motor Assembly.

Installation:

(1) Replace the Threading Motor Assembly with a new one and assemble the parts with Removal Steps (1) to (5) in reverse order.

Note: Before installing the L Motor Belt, clean it with a cleaning piece and be sure to install the belt in the groove of pulley.


Threading Motor Assembly
fixing screws
L Motor Belt
connector CN302 (red) 2P
×
belt
○
pully
belt
Threading Motor

7-2-8. REPLACEMENT OF THE REEL MOTOR

Removal:

(1) Open the HK-5 and SE-10 Boards referring to Section 2-9 and 2-10.

(2) Remove the FP-122 Flexible Board from the PC Board of the Reel Motor.

(3) Remove the FP-206 Flexible Board from the RS-31 Board.

(4) Remove the two fixing screws of the Motor Bracket.

(5) Insert a flatblade screwdriver into A, release the projection B and remove the Motor Bracket.

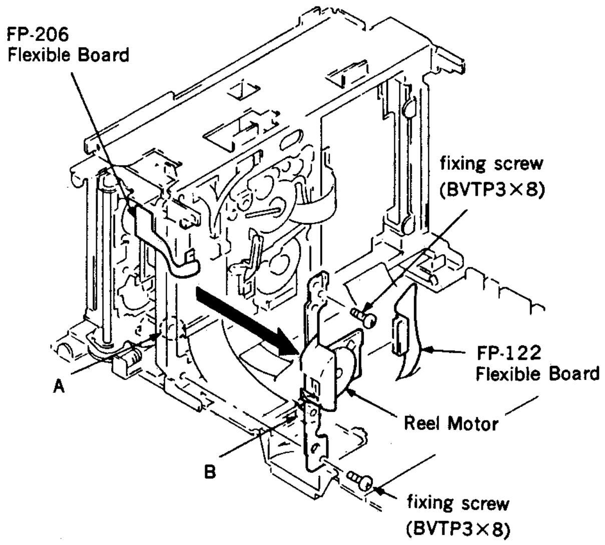
Note: If the Motor Bracket is removed by hand directly, it tends to damage the Motor Bracket.

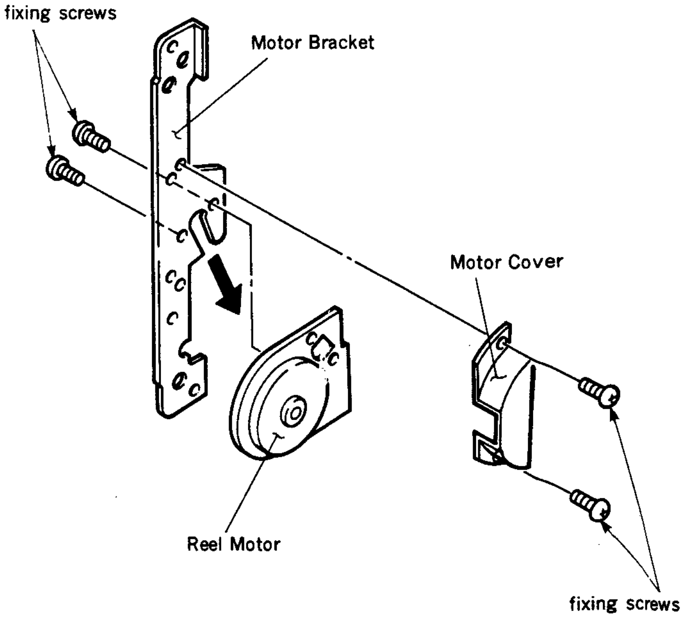
(6) Remove the two fixing screws and remove the Motor Cover from the Motor Bracket.

(7) Remove the two fixing screws and remove the Reel Motor in the direction of the arrow.

Installation:

(1) Replace the Reel Motor with a new one. Assemble the parts with Removal Steps (1) to (7) in reverse order.


FP-206
Flexible Board
fixing screw
(BVTP3×8)
FP-122
Flexible Board
A
Reel Motor
B
fixing screw
(BVTP3×8)


fixing screws
Motor Bracket
Motor Cover
Reel Motor
fixing screws

7-2-9. REPLACEMENT OF THE No. 3 and No. 4 GUIDES

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) When replacing the No. 3 Guide, remove the Fly Wheel referring to Section 7-2-1.

(3) Turn the Rotary Upper Drum counterclockwise and keep heads away from the No. 3 Guide or No. 4 Guide.

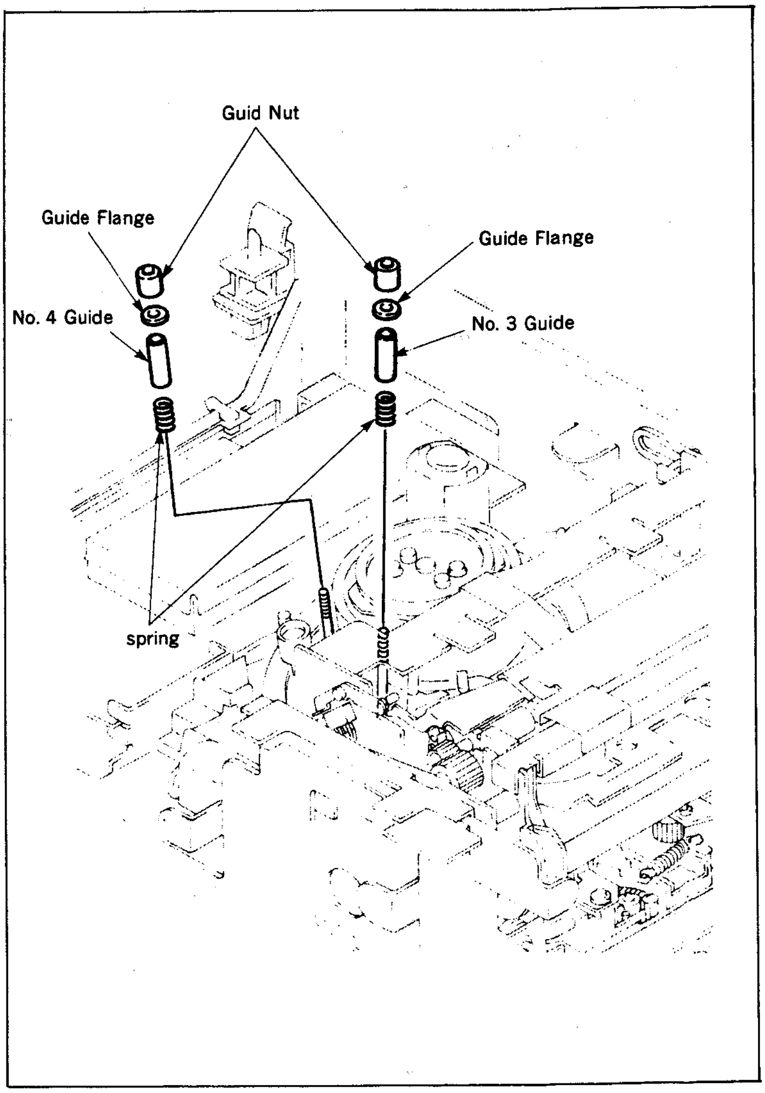
(4) Remove the Guide Nut and remove the Guide Flange, No. 3 Guide (or No. 4 Guide) and spring.

Installation:

(1) Replace the No. 3 Guide (or No. 4 Guide) with a new one.

(2) Assemble the parts with Removal Steps (1) to (4) in reverse order.

After replacement, adjust the height of the No. 3 and No. 4 Guides to meet the tape path condition of Section 7-4-6-3 by turning the Guide Nut.



7-2-10. REPLACEMENT OF THE ENTRANCE GUIDE (P) ASSEMBLY (No. 2 GUIDE ASSEMBLY)

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(3) Remove the Fly Wheel referring to Section 7-2-1.

(4) Turn the Rotary Upper Drum counterclockwise and keep heads away from the Entrance Guide (P) Assembly.

(5) Remove the Guide Nut and remove the Guide Flange, No. 3 Guide and spring.

(6) Remove the two fixing screws and remove the Entrance Guide (P) Assembly.

Installation:

(1) Check that the mechanical block is put into the LOADING TOP mode.

(2) Replace the Entrance Guide (P) Assembly with a new one.

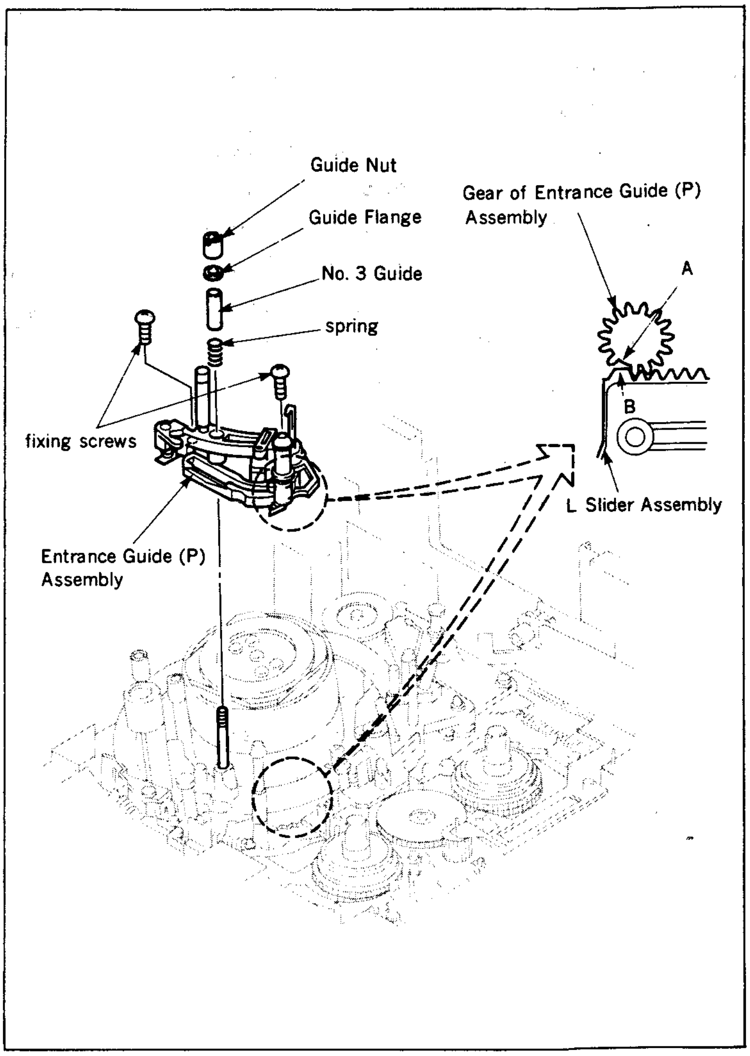
(3) Engage the Entrance Guide (P) Assembly and L Slider Assembly so that their flat portions A and B are matched, and tighten it with two fixing screws.

(4) Assemble the parts with Removal Steps (3) and (5) in reverse order.

(5) Perform the FWD Back Tension Adjustment referring to Section 7-3-5.

(6) Assemble the parts with Removal Steps (1) and (2) in reverse order.

After replacement, perform the Tape Path Adjustment referring to Section 7-4.


Guide Nut
Guide Flange
No. 3 Guide
spring
fixing screws
Entrance Guide (P) Assembly
Gear of Entrance Guide (P) Assembly
A
B
L Slider Assembly

7-2-11. REPLACEMENT OF THE SLANT GUIDE ASSEMBLY

Tool: Mode Selector (Ref. No. J-13)

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Remove the Threading Ring Assembly referring to Section 7-2-4.

(3) Remove the fixing screw and E ring.

(4) Remove the Slant Guide Block Assembly.

Installation:

(1) Operate the L-mode select button of the Mode Selector and align the right edge of the L Slider Assembly and the right side of the Lock Slider M Assebmly. (fig. 2)

Note: At this time, check that the position of the notch on the Slant Guide Drive Gear is placed as shown in figure 2.

(2) Assemble the Guide Base Assembly of new Slant Guide Block Assembly the position of the *unthreading end.

*The Guide Base Assembly is the Reel Table side.

(3) Assemble the parts with Removal Steps (1) to (3) in reverse order.

After replacement, perform the Tape Path Check referring to Section 7-4-6.

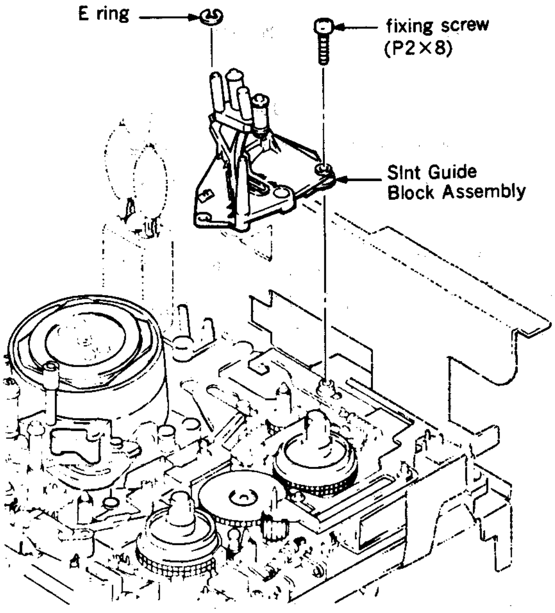

E ring
fixing screw
(P2×8)
Slnt Guide
Block Assembly

Fig. 1

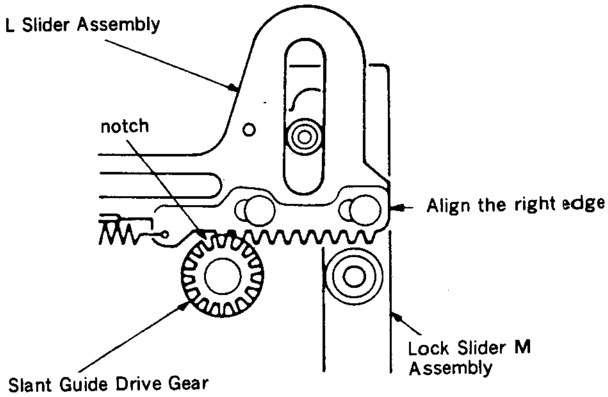

L Slider Assembly
notch
Align the right edge
Lock Slider M
Assembly
Slant Guide Drive Gear

Fig. 2

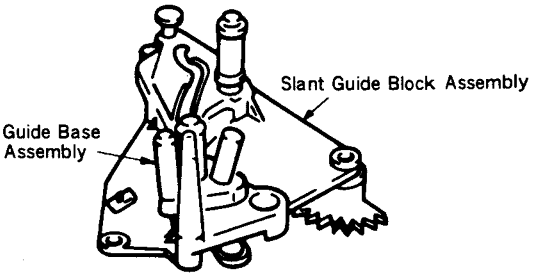

Slant Guide Block Assembly
Guide Base
Assembly

Fig. 3

7-2-12. REPLACEMENT OF THE No. 5 GUIDE BLOCK COMPLETE ASSEMBLY

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Turn the Rotary Upper Drum counterclockwise and keep heads away from the fixing screw of the Guide Block.

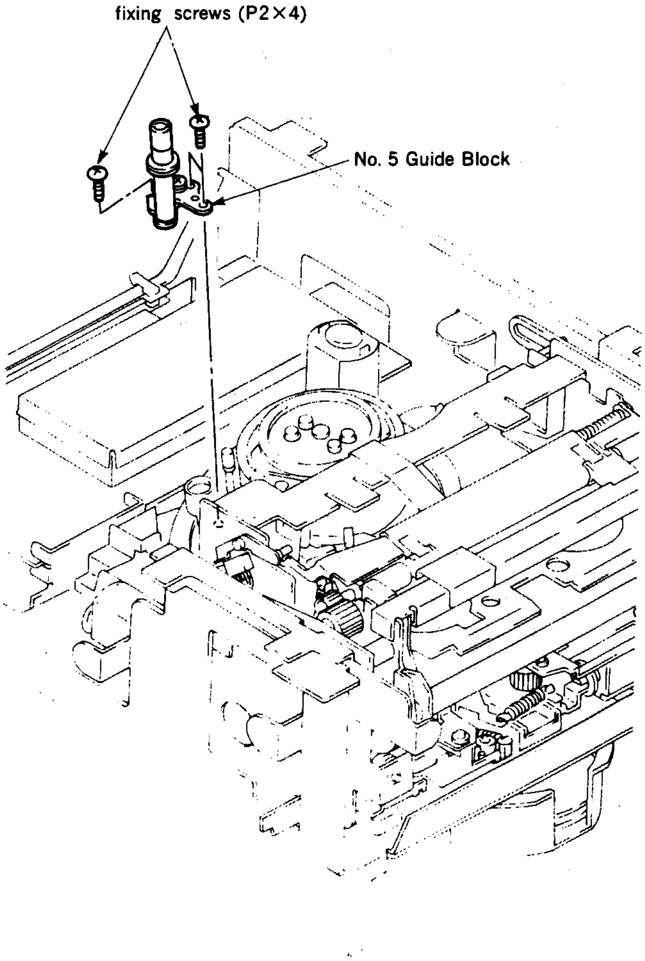
(3) Remove the three fixing screws and remove the No. 5 Guide Block Complete Assembly.

Installation:

(1) Replace the No. 5 Guide Block Complete Assembly with a new one.

(2) Assemble the parts with Removal Steps (1) and (3) in reverse order.

After replacement, perform the Tape Path Adjustment referring to Section 7-4.



7-2-13. REPLACEMENT OF THE S REEL TABLE ASSEMBLY

Tools: Mode Selector (Ref. No. J-14)
Cassette Tape
Dial Tension Gauge (Ref. No. J-6)
Tension Measurement Reel (30 mm dia.) (Ref. No. J-7)
Sony Oil

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Press the M-mode select button of the Mode Selector and set to the FF/REW mode.

(3) Remove the fixing screw and remove the Reel Table Stopper.

(4) Remove the S Reel Table Assembly.

Note: Be sure to hold the upper reel claw when removing the S Reel Table. (Note of figure)

Installation:

(1) Apply a half drop of oil on the top point of the Reel Shaft.

(2) Move the S Main Brake Assemvly in the direction of the arrow.

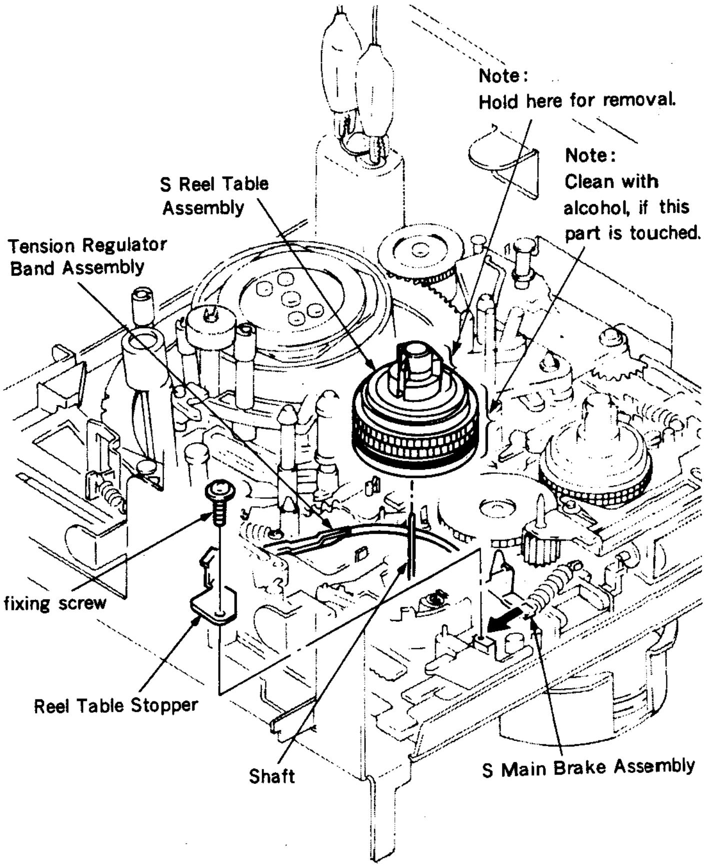
(3) Install the new S Reel Table Assembly while being carefull not to pinch the Tension Regulator Band Assembly.

(4) Install the Reel Table Stopper and tighten it with the fixing screw.

(5) Press the M-mode select button of the Mode Selector and set to the LOADING/UNLOADING mode.

(6) After replacement, perform the FWD running more than two minutes. Then, perform the FWD Back Tension Adjustment referring to Section 7-3-5.

(7) Install the Cassette-up Compartment Assembly referring to Section 2-13.


Note:
Hold here for removal.
Note:
Clean with alcohol, if this part is touched.
S Reel Table Assembly
Tension Regulator Band Assembly
fixing screw
Reel Table Stopper
Shaft
S Main Brake Assembly

7-2-14. REPLACEMENT OF THE T REEL TABLE ASSEMBLY

Tools: Mode Selector (Ref. No. J-13)
Sony Oil

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Press the L-mode select button of the Mode Selector and set to the UNLOADING WAIT mode.

(3) Hook the spring which is hooked on the T.S Brake Assembly to the claw of the Lock Slider Assembly.

(4) Remove the stopper washer and remove the T.S Brake Assembly.

(5) Press the M-mode select button of the Mode Selector and set to the EJECT mode.

(6) Move the Drive Gear B Assembly in the direction of the arrow.

(7) Remove the T Reel Table Assembly.

Note: Be sure to hold the upper reel claw when removing the T Reel Table. (Note of figure)

Installation:

(1) Apply a half drop of oil on the top point of the Reel Shaft.

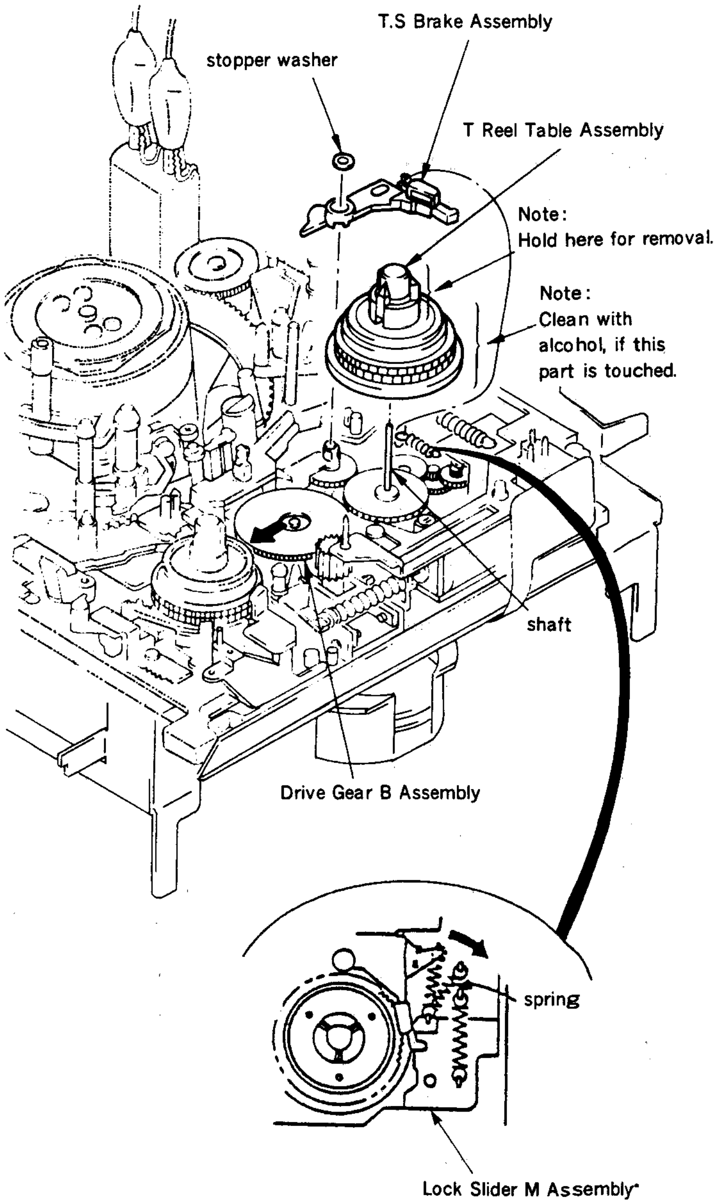
(2) Move the Drive Gear B Assembly in the direction of the arrow. (Check that the Mode Selector sets to EJECT mode.)

(3) Replace the T Reel Table Assembly with a new one.

(4) Assemble the parts with Steps (4) and (5) in reverse order.

(5) Set the L-mode to LOADING TOP mode and set the M-mode to LOADING/UNLOADING mode.

(6) Install the Cassette-up Compartment Assembly referring to Section 2-13.


T.S Brake Assembly
stopper washer
T Reel Table Assembly
Note:
Hold here for removal.
Note:
Clean with alcohol, if this part is touched.
shaft
Drive Gear B Assembly
spring
Lock Slider M Assembly

7-2-15. REPLACEMENT OF THE PINCH PRESS ARM ASSEMBLY

Tool: Sony Oil

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Hook the spring which is hooked to the Spring Hook Assembly to the Pinch Press Assembly as shown in the figure.

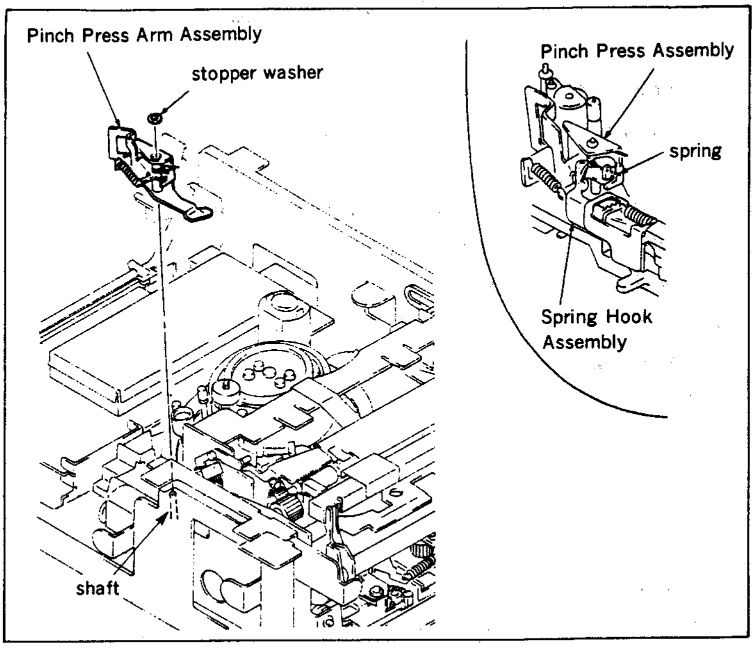
(3) Remove the stopper washer and remove the Pinch Press Arm Assembly.

Installation:

(1) Apply a half drop of oil on the shaft.

(2) Replace the Pinch Press Arm Assembly with a new one.

(3) Assemble the parts with Removal Steps (1) to (3) in reverse order.


Pinch Press Arm Assembly
stopper washer
shaft
Pinch Press Assembly
spring
Spring Hook Assembly

7-2-16. REPLACEMENT OF THE TENSION REGULATOR ARM ASSEMBLY

Tools: Mode Selector (Ref. No. J-13)
Sony Oil
Locking Compound

Removal:

(1) Remove the Cassette-up Assembly referring to Section 2-13.

(2) Replace the spring referring to Removal step (2) of Section 7-2-15.

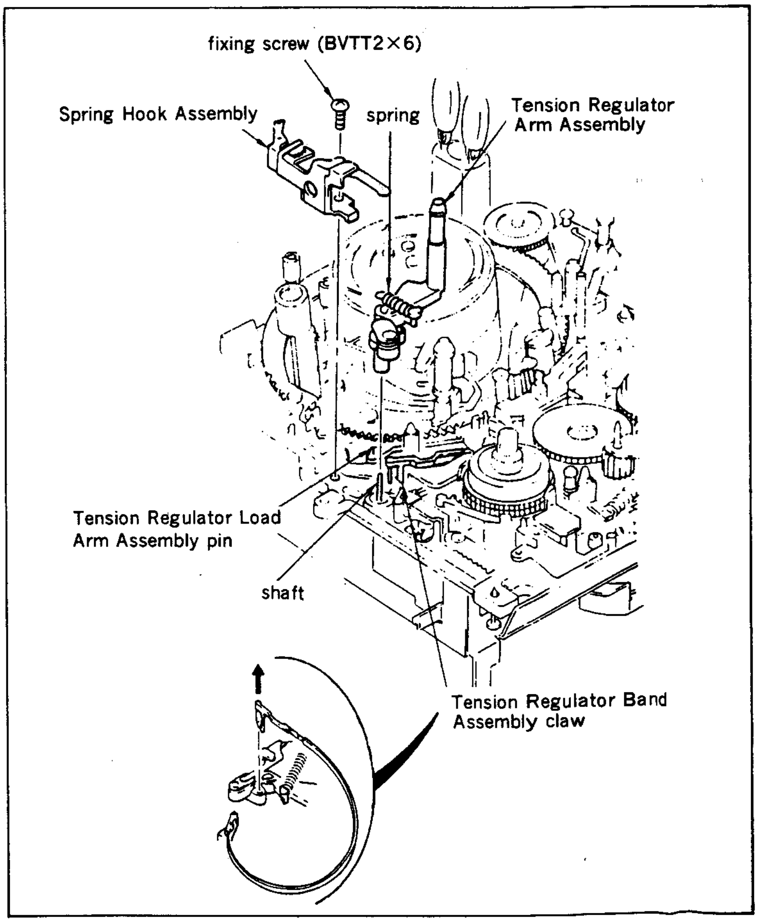
(3) Remove the spring which is hooked to the Tension Regulator Spring Hook Assembly.
(Make a note of the hooking position.)

(4) Remove the fixing screw and remove the Tension Regulator Spring Hook Assembly.

(5) Press the M-mode select button of the Mode Selector and set to the FF/REW mode.

(6) Remove the claw of the Tension Regulator Band Assembly.

(7) Remove the Tension Regulator Arm Assembly.


fixing screw (BVTT2×6)
Spring Hook Assembly
spring
Tension Regulator Arm Assembly
Tension Regulator Load Arm Assembly pin
shaft
Tension Regulator Band Assembly claw

Installation:

(1) Apply a half drop of oil on the shaft.

(2) Replace the Tension Regulator Arm Assembly with a new one.

(3) Install the Tension Regulator Arm Assembly while inserting the pin of the Tension Regulator Load Arm Assembly in the cam groove (on the back of the Arm) of the Tension Regulator Arm Assembly.

(4) Install the claw of the Tension Regulator Band Assembly.

Note: Do not touch the inside of the band and bend it.

(5) Press the M-mode select button of the Mode Selector and set to the LOADING/UNLOADING mode.

(6) Install the Tension Regulator Spring Hook Assembly and tighten it with the fixing screw.

(7) Smear the Locking Compound to the head of the fixing screw.

(8) Assemble the Parts with Removal Steps (1) to (3) in reverse order.

After replacement, perform the Tape Path Check referring to Section 7-4-6.

7-2-17. REPLACEMENT OF THE TENSION REGULATOR BAND ASSEMBLY

Tools: Mode Selector (Ref. No. J-13)
Cassette Tape
Dial Tension Gauge (Ref. No. J-6)
Tension Measurement Reel (30 mm dia.)
(Ref. No. J-7)

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Remove the S Reel Table Assembly referring to Removal of Section 7-2-13.

(3) Release the claw of the Band Arm and remove one side of the Tension Regulator Band Assembly.

(4) Release the claw from the Tension Regulator Arm Assembly and remove the Tension Regulator Band Assembly.

Installation:

(1) Replace the Tension Regulator Band Assembly with a new one.

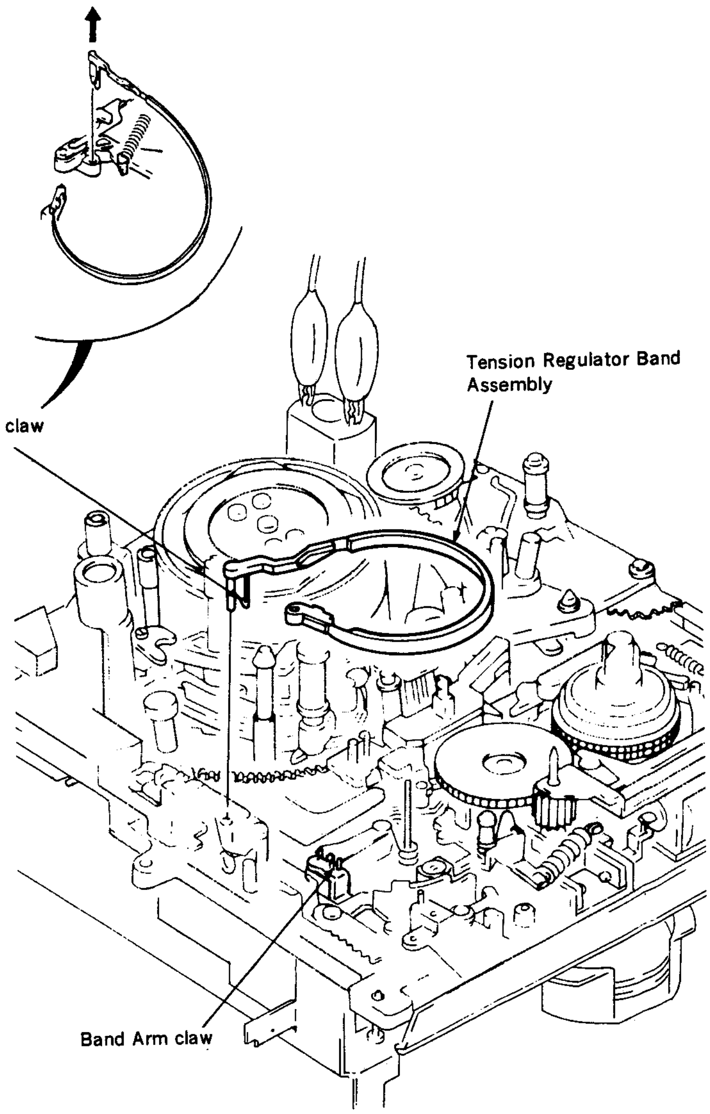
(2) Install the Tension Regulator Band Assembly with Removal Steps (3) and (4) in reverse order.

Note: Do not touch the inside of the band and bend it.

(3) Install the S Reel Table Assembly referring Installation of Section 7-2-13.

(4) After replacement, perform the FWD running more than two minutes and then perform the FWD Back Tension Adjustment referring to Section 7-3-5.

(5) Install the Cassette-up Compartment Assembly referring to Section 2-13.



7-2-18. REPLACEMENT OF THE L SLIDER ASSEMBLY

Tools: Mode Selector (Ref. No. J-13)
Sony Grease

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Remove the Fly Wheel referring to Section 7-2-1.

(3) Remove the Threading Ring Assembly referring to Section 7-2-4.

(4) Remove the Entrance Guide (P) Assembly referring to 7-2-10.

(5) Remove the Slant Guide Block Assembly referring to Section 7-2-11.

(6) Press the L-mode select button of the Mode Selector and set to the DRUM START mode.

(7) Remove the Slant Guide Drive Gear.

(8) Remove the two stopper washers from the L Slider Assembly.

(9) While pushing the projection of the RL Arm Assembly in the direction of the arrow, lift the right side of the L Slider Assembly and remove it from the shaft.

(10) Lift the right side of the L Slider Assembly as shown in figure 2 and remove the pin of the Tension Regulator Load Arm Assembly from the cam groove of the Tension Regulator Arm Assembly, and then remove the L Slider Assembly.

(11) Remove the stopper washer and remove the Tension Regulator Load Arm Assembly.

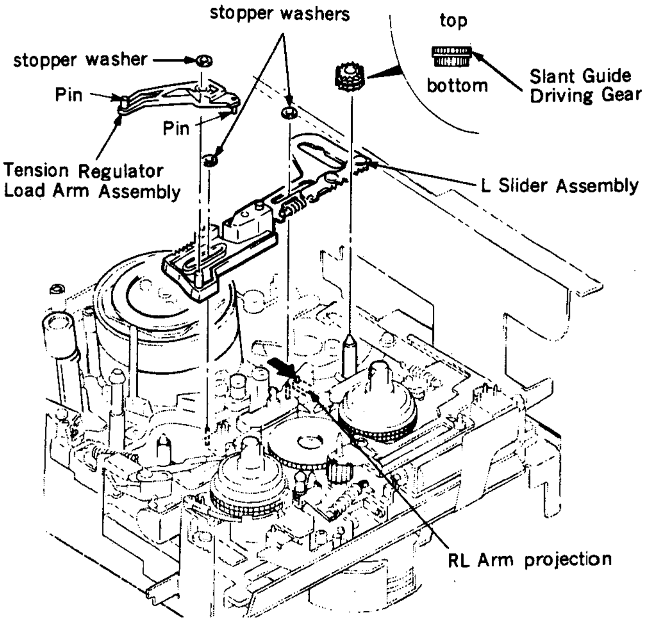

stopper washers
top
stopper washer
Pin
bottom
Slant Guide Driving Gear
Pin
Tension Regulator Load Arm Assembly
L Slider Assembly
RL Arm projection

Fig. 1

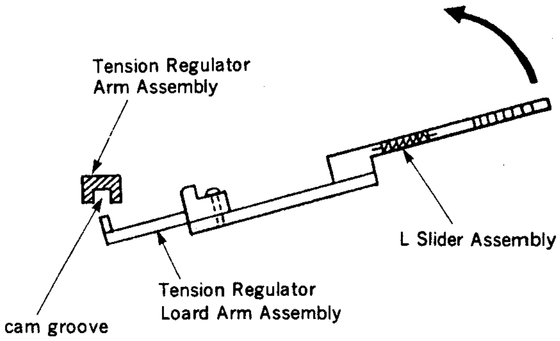

Tension Regulator Arm Assembly
L Slider Assembly
Tension Regulator Loard Arm Assembly
cam groove

Fig. 2

Installation:

(1) Replace the L Slider Assembly with a new one and smear Sony Grease to the three longitudinal holes as shown in figure 3.

(2) Assemble the parts with Removal Steps (8) to (11) in reverse order.

Note: When inserting the pin of the Tension Regulator Load Arm Assembly in the cam groove of the Tension Regulator Arm Assembly, insert the another pin into the groove of the M Slider.

(3) Press the L-mode select button of the Mode Selector and align the right edges of the L Slider Assembly and the Lock Slider M Assembly. (fig. 4)

(4) Engage the Slant Guide Drive Gear with L Slider Assembly so that the notch of the Drive Gear is 1 tooth away from the left and gear of the L Slider Assembly as shown in the figure 4.

(5) Assemble the parts with Removal Steps (1) to (5) in reverse order.

After replacement, perform the Tape Path Adjustment referring to Section 7-4.

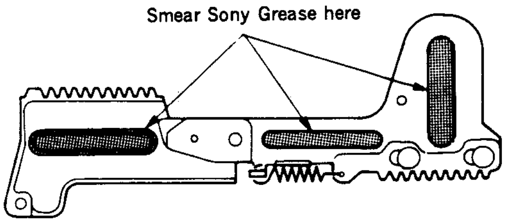

Smear Sony Grease here

Fig. 3

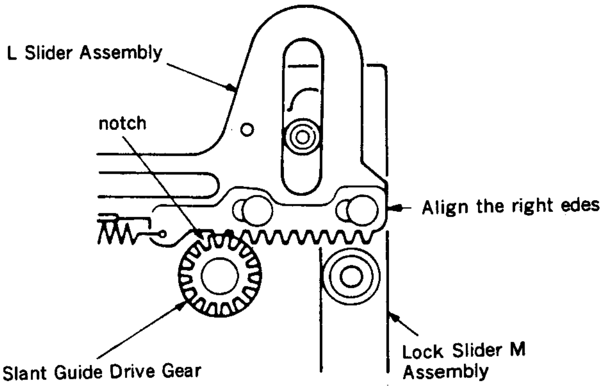

L Slider Assembly
notch
Align the right edes
Slant Guide Drive Gear
Lock Slider M Assembly

Fig. 4

7-2-19. REPLACEMENT OF THE L-SWITCH ASSEMBLY

Tools: Mode Selector (Ref. No. J-13)
Sony Oil
Sony Grease

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Remove the Fly Wheel referring to Section 7-2-1.

(3) Remove the Threading Ring Assembly referring to Section 7-2-4.

(4) Remove the Entrance Guide (P) Assembly referring to Section 7-2-10.

(5) Remove the Slant Guide Block Assembly referring to Section 7-2-11.

(6) Remove the L Slider Assembly referring to Section 7-2-18.

(7) Remove the Lock Slider Retainer.

(8) Remove the tension spring which is hooked to the Lock Slider A.

(9) Remove the fixing screw and remove the Lock Slider A.

(10) Remove the stop washer of the Drive Changer Assembly and remove the torsion spring.

(11) Remove the Drive Changer Assembly.

(12) Disconnect the connector (6P) on the L-switch Assembly.

(13) Remove the two fixing screws and remove the L-switch Assembly.

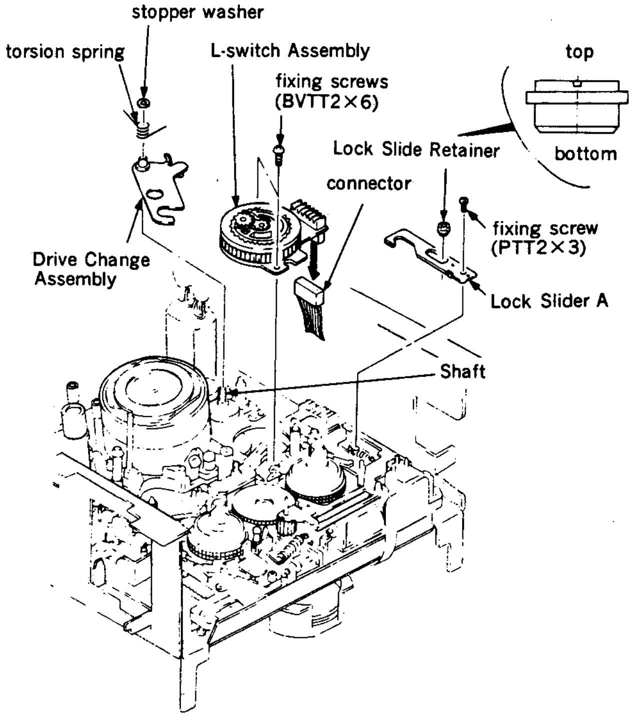

stopper washer
torsion spring
L-switch Assembly
top
fixing screws
(BVTT2×6)
Lock Slide Retainer
bottom
connector
fixing screw
(PTT2×3)
Drive Change
Assembly
Lock Slider A
Shaft

Fig. 1

Installation:

(1) Replace the L-switch Assembly with a new one and apply a half drop of oil on the Planetary Roller Shaft.

(2) Assemble the parts with Removal Steps (12) and (13) in reverse order.

(3) Press the L-mode select button (right or left) of the Mode Selector and check that the L-switch Assembly rotates.

(4) Apply a half drop of oil on the fixing shaft of the Drive Changer Assembly.

(5) Smear Sony Grease to the U groove of the Drive Changer Assembly as shown in figure 2.

(6) Assemble the parts with Removal Steps (10) and (11) in reverse order.

(7) Press the L-mode select button (right or left) of the Mode Selector and check that the L-switch Assembly rotates.

(8) Assemble the parts with Removal Steps (7) to (9) in reverse order.

(9) Press the L-mode select button (righ or left) of the Mode Selector so that the Planetary Roller Shaft is placed to the position shown in figure 3.

(10) Assemble the parts with Removal Steps (1) to (6) in reverse order.

After replacement, perform the Tape Path Adjustment referring to Section 7-4.

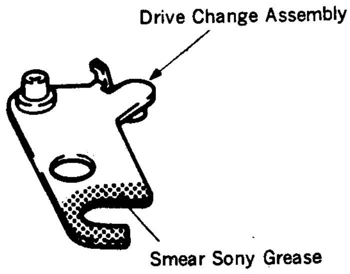

Drive Change Assembly
Smear Sony Grease

Fig. 2

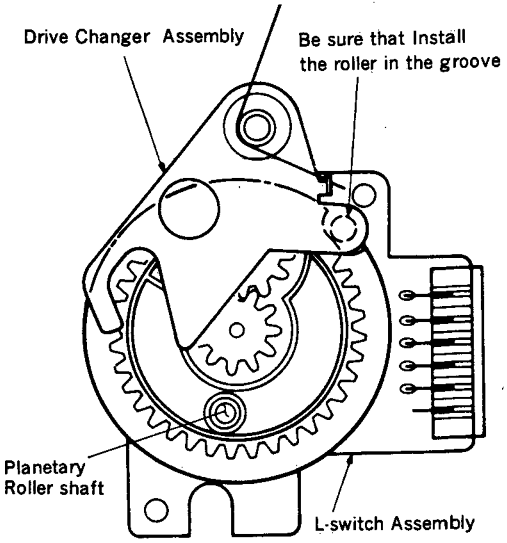

Drive Changer Assembly
Be sure that Install the roller in the groove
Planetary Roller shaft
L-switch Assembly

Fig. 3

7-2-20. REPLACEMENT OF THE PLUNGER SOLENOID

Removal:

(1) Open the MB-19 Board referring to Section 2-8.

(2) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(3) Remove the spring which is hooked to the Lock Slider M Assembly.

(4) Remove the two stopper washers.

(5) Remove the fixing screw and remove the Lock Slider M Assembly.

(6) Unsolder the three terminals of the Plunger Solenoid of the FP-206 Board.

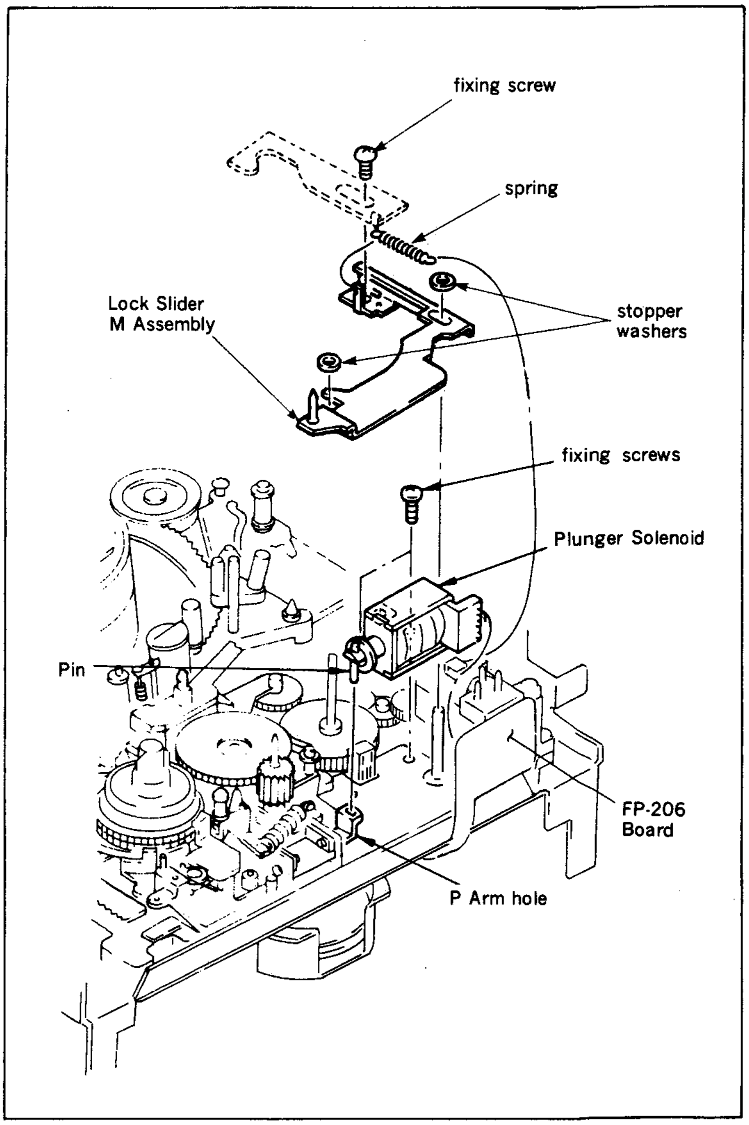
(7) Remove the two fixing screws and remove the Plunger Solenoid. (At this time, be careful not to damage the T Reel Assembly with a screwdriver, and do not touch it.)

Installation:

(1) Replace the Plunger Solenoid with a new one.

(2) Insert the pin of the Plunger Solenoid into the hole of the P Arm and install the new Plaunger Solenoid with the two fixing screws. (At this time, be careful not to damage the T Reel Assembly with a screwdriver and do not touch it.)

(3) Assemble the parts with Removal Steps (1) to (6) in reverse order.


fixing screw
spring
Lock Slider
M Assembly
stopper
washers
fixing screws
Plunger Solenoid
Pin
FP-206
Board
P Arm hole

7-2-21. REPLACEMENT OF THE M-SWITCH ASSEMBLY

Tools: Mode Selector (Ref. No. J-13)
Sony Oil

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Disconnect the connector (CN301) on the RS-31 Board.

(3) Remove the T Reel Table Assembly referring to Section 7-2-14.

(4) Remove the stopper washer and remove the Drive Gear B Assembly.

(5) Remove the LD-1 Board. (fig. 1)

(6) Remove the Lock Slider M Assembly referring to Removal Steps (3) to (5) of Section 7-2-20.

(7) Remove the tension spring and remove the B Release Arm Assembly.

(8) Check that the M-mode is put into EJECT mode.

(9) Remove the stopper washer and remove the Mode Output Gear.

(10) Release the two claws of the Control Motor Cover and remove the Push Switch.

(11) Disconnect the connctor (6P) on the M-switch Assembly.

(12) Remove the two fixing screws and remove the Control Motor Cover L.

(13) Remove the fixing screw and while lifiting up the M-switch Assembly, push the T.S Release Arm in the direction of the arrow A. Then push the T Main Brake Assembly in the direction of the arrow B and remove the M-switch Assembly.

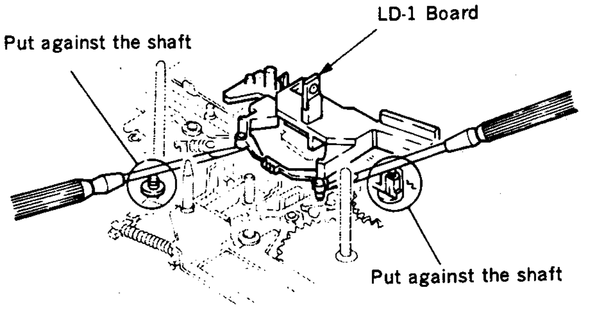

LD-1 Board
Put against the shaft
Put against the shaft

Fig. 1

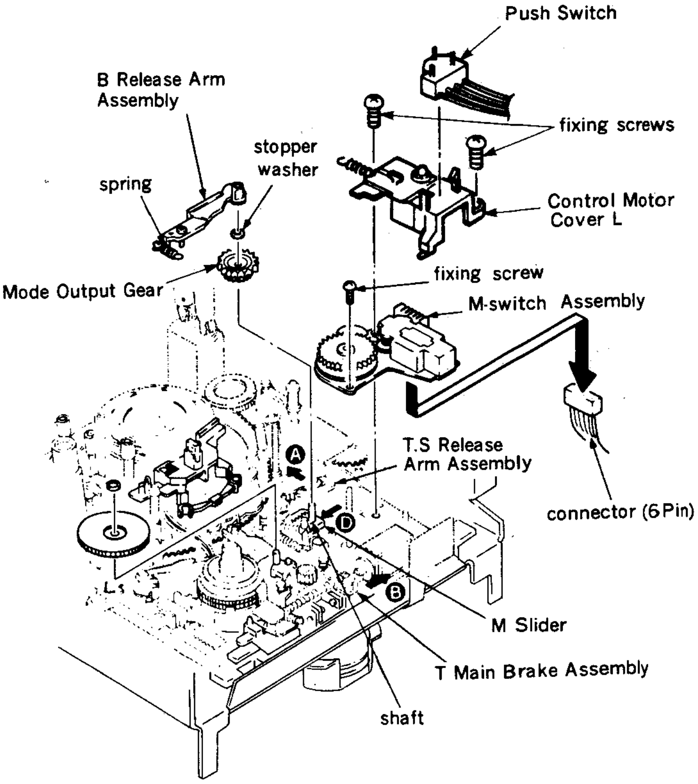

Push Switch
B Release Arm Assembly
fixing screws
stopper washer
spring
Control Motor Cover L
fixing screw
Mode Output Gear
M-switch Assembly
A
T.S Release Arm Assembly
connector (6Pin)
D
B
M Slider
T Main Brake Assembly
shaft

Fig. 2

How to removal the DC Motor:

(1) Unsolder the two terminals at the C points as shown in figure 3 and remove the DC Motor from the MS-4 Board. (fig. 3)

Installation:

(1) Replace the M-switch Assembly with a new one.

(2) Assemble the parts with Removal Steps (10) to (13) in reverse order.

(3) Check that the mechanical block is put into EJECT mode.

(4) Check that the M Slider moves fully in the direction of arrow D. (fig. 2)

(5) Apply a half drop of oil on the shaft of the Mode Output Gear. (fig. 2)

(6) Install the Mode Output Gear so that the center of the M-switch Assembly Gear and the two positioning holes are lined up. (fig. 4)

(7) Install the stopper washer to the shaft of the Mode Output Gear.

(8) Press the M-mode select button of the Mode Selector and set to the LOADING/UNLOADING mode.

(9) Assemble the parts with Removal Steps (1) to (7) in reverse order.

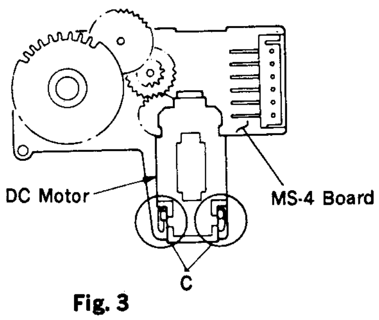

DC Motor
MS-4 Board
C

Fig. 3

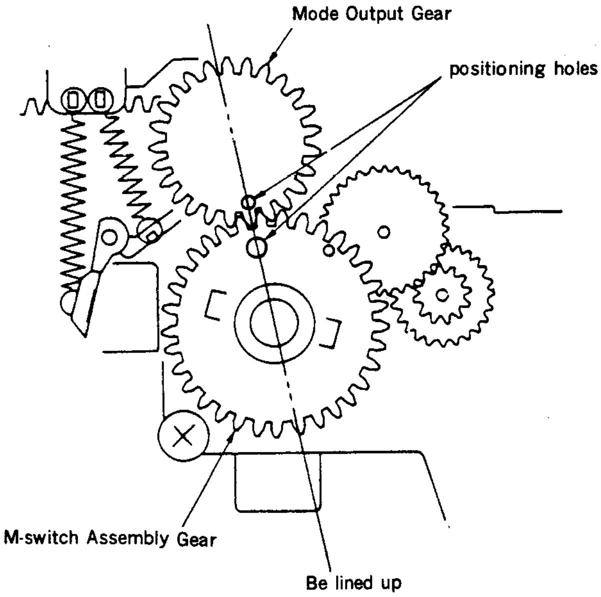

Mode Output Gear
positioning holes
M-switch Assembly Gear
Be lined up

Fig. 4

7-2-22. REPLACEMENT OF THE M SLIDER

Tools: Mode Selector (Ref. No. J-13)
Sony Oil
Sony Grease

Removal:

(1) Remove the Cassette-up Compartment Assembly referring to Section 2-13.

(2) Remove the Threading Ring Assembly referring to Section 7-2-4.

(3) Remove the S Reel Table Assembly referring to Section 7-2-13.

(4) Remove the T Reel Table Assembly referring to Section 7-2-14.

(5) Remove the Pinch Press Arm Assembly referring to Section 7-2-15.

(6) Remove the Tension Regulator Arm Assembly referring to Section 7-2-16.

(7) Remove the Tension Regulator Band Assembly referring to Section 7-2-17.

(8) Remove the Drive Gear (B) Assembly, LD-1 Board, Lock Slider M Assembly and B Release Arm Assembly referring to Removal Steps (2) to (7) of Section 7-2-21.

(9) Remove the Tension Regulator Load Arm Assembly referring to Removal Step (11) of Section 7-2-18.

(10) Remove the tension spring which is hooked to the S Main Brake Assembly.

(11) Remove the two stopper washers and remove the S Main Brake Assembly and T Main Brake Assembly.

(12) Operate the Mode Selector and set the L-mode to LOADING TOP mode and the M-mode to LOADING/UNLOADING mode.

(13) Remove the fixing screw and remove the Drive Complete Assembly.

(14) Remove the Mode Output Gear referring to Removal Steps (8) and (9) of Section 4-21.

(15) Remove the two tension springs which are hooked to the REW Brake Assembly and B Release Slider.

(16) Remove the REW Brake Assembly and remove the REW Brake Spacer.

(17) Remove the stopper washer and remove the B Release Slider.

(18) Remove the stopper washer and remove the Ring Lock Spring and RL Arm.

(19) Move the M Slider to the right. At this time, leave about 5mm space between the fixing shaft and left edge of M Slider's longitudinal hole.

(20) Remove the E ring and remove the Pinch Press Lever Assembly.

(21) Remove the tension spring and remove the Hard Brake S.

(22) Remove the stopper washer and push the Mode Arm in the direction of the arrow. Lift up the left side of the M Slider to remove.

Installation:

(1) Replace the M Slider with a new one and smear grease. (fig. 2)

(2) Push the Mode Arm in the direction of the arrow. (fig. 1) While being careful to the positional relationship with other parts install the M Slider. Then install the stopper washer. (fig. 3)

(3) Install the Hard Brake S and hook the tension spring to it.

(4) Smear grease to the Pinch Press Lever Assembly. (fig. 4)

(5) Apply a half drop of oil to the part under the groove of Pinch Press Lever Assembly's shaft.

(6) Assemble the parts with Removal Steps (16) to (18) and (20) in reverse order.

(7) Hook the two tension springs to the REW Brake Assembly and B Release Slider.

Note: Hook the two tension springs as follows and be careful not to mix them.

- B Release Slider Spring: diameter 2 mm, wire diameter 0.18mm
- REW Brake Assembly Spring: diameter 1.6 mm, wire diameter 0.12mm

(8) Move the M Slider to the left fully.

(9) Press the M mode select button of the Mode Selector and set to EJECT mode.

(10) Install the Mode Output Gear referring to Installation Steps (5) to (7) in Section 7-2-21.

(11) Press the M mode select button of the Mode Selector and set to the LOADING/UNLOADING mode.

(12) Insert the horizontal shaft of the Drive Complete Assembly into the groove of the Upper and Lower Selection Arm and tighten the fixing screw.

(13) Assemble the parts with Removal Steps (1) to (11) in reverse order.

After replacement, perform the Tape Path Check referring to Section 7-4-6.

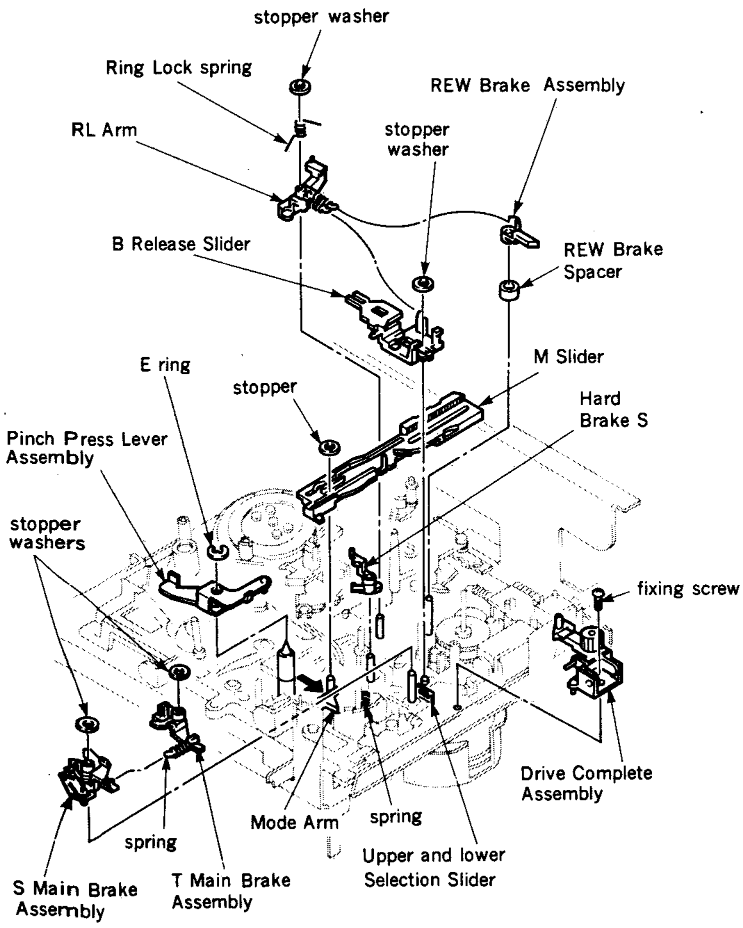

stopper washer
Ring Lock spring
RL Arm
REW Brake Assembly
stopper washer
B Release Slider
REW Brake Spacer
M Slider
E ring
stopper
Hard Brake S
Pinch Press Lever Assembly
stopper washers
fixing screw
Drive Complete Assembly
Mode Arm
spring
spring
Upper and lower Selection Slider
S Main Brake Assembly
T Main Brake Assembly

Fig. 1

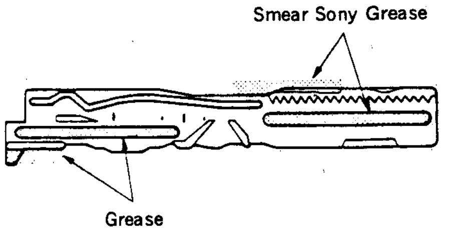

Smear Sony Grease
Grease

Fig. 2

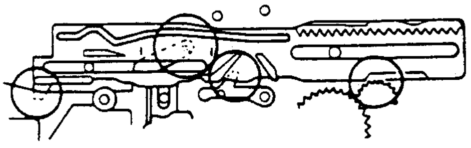


Fig. 3

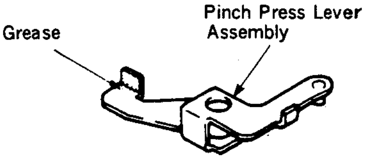

Grease
Pinch Press Lever Assembly

Fig. 4

7-2-23. INSTALLATION OF THE BLOCK PLATE ASSEMBLY

When removing the Block Plate Assembly, installing procedures are as follows:

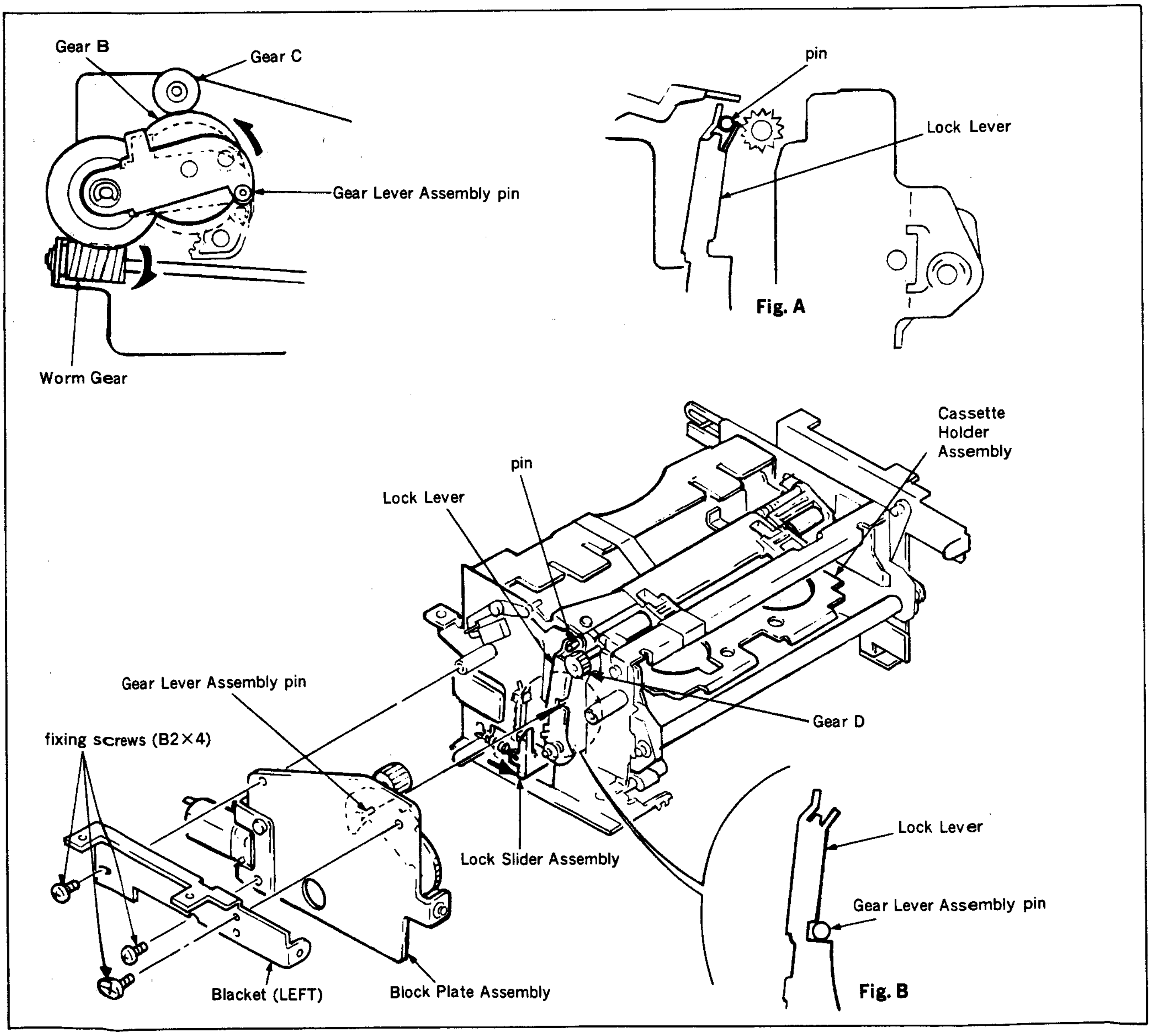
(1) Push the Lock Slider Assembly in the direction of the arrow and lift the Cassette Holder.

(2) Check that the positional relationship between the Lock Lever and pin is as shown in figure A.

(3) Turn the Worm Gear in the direction of the arrow and engage the Gear B and Gear C.

(4) While checking that positional relationship between the pin of the Gear Lever Assembly and Lock Lever is as shown in figure B, fix the Block Plate Assembly and Blacket (LEFT) with three fixing screws.

(5) Check that the Gear C and D are engaged.

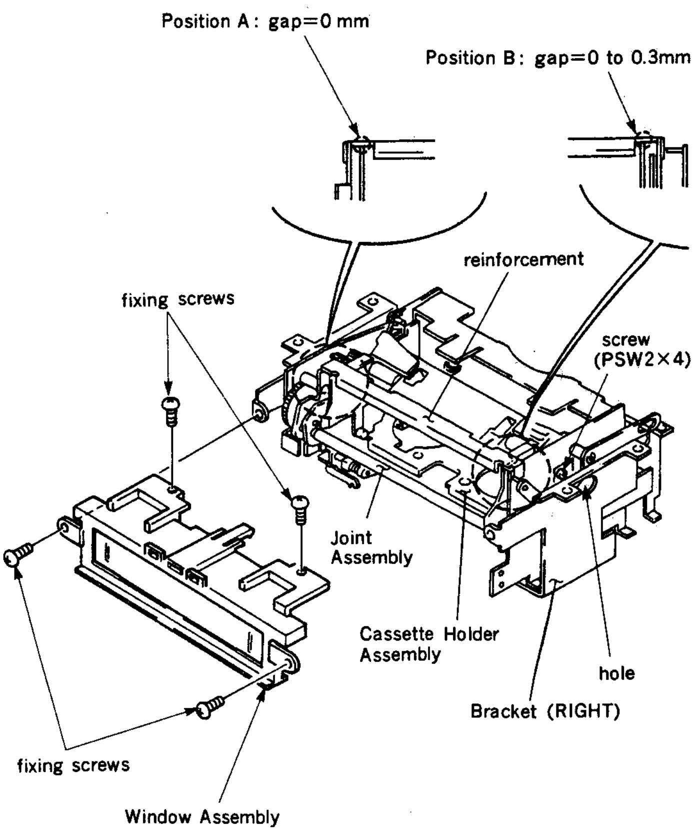

Gear B
Gear C
Gear Lever Assembly pin
Worm Gear
pin
Lock Lever
Fig. A
Cassette Holder Assembly
pin
Lock Lever
Gear Lever Assembly pin
fixing screws (B2×4)
Gear D
Lock Slider Assembly
Blacket (LEFT)
Block Plate Assembly
Lock Lever
Gear Lever Assembly pin
Fig. B

7-2-24. PARALLELISM ADJUSTMENT OF THE CASSETTE HOLDER BLOCK

When the following trouble happen, perform this adjustment. When inserting or ejecting the cassette, it is caught in the Cassette Holder Assembly or Joint Assembly, etc., and does not move smoothly.

Adjustment procedure:

(1) Open the MB-19 Board referring to Section 2-8.
(2) Remove the Cassette-up Compartment Assembly referring to Section 2-13.
(3) Remove the four fixing screws and remove the Window Assembly.
(4) Loosen the screw (PSW2 X 4) from the hole of the Braket (RIGHT).
(5) Push the bottom of the Cassette Holder Assembly against the reinforcement, and adjust the position so that there is no clearance at points A and B.
(6) Tighten the screw (PSW2 X 4) and smear locking compound to it.
(7) Assemble the parts with Steps (1) to (3) in reverse order.


Position A: gap=0 mm
Position B: gap=0 to 0.3mm
reinforcement
fixing screws
screw
(PSW2×4)
Joint
Assembly
Cassette Holder
Assembly
hole
Bracket (RIGHT)
fixing screws
Window Assembly

7-3. TORQUE AND BACK TENSION ADJUSTMENT

After removing the Mechanical Deck and Cassette-up Compartment from the unit referring to Section 2-5 and 2-13, perform these adjustments except for Section 7-3-4.

7-3-1. CHECK OF THE MAIN BRAKE TORQUE

1. S Main Brake Torque

Tools: Mode Selector (Ref. No. J-13)
Tension Measurement Reel (Ref. No. J-8)
Dial Tension Gauge (Ref. No. J-6)

Mode: Press the M-mode select button of the Mode Selector and set to the FF/REW mode.

Check Procedure:

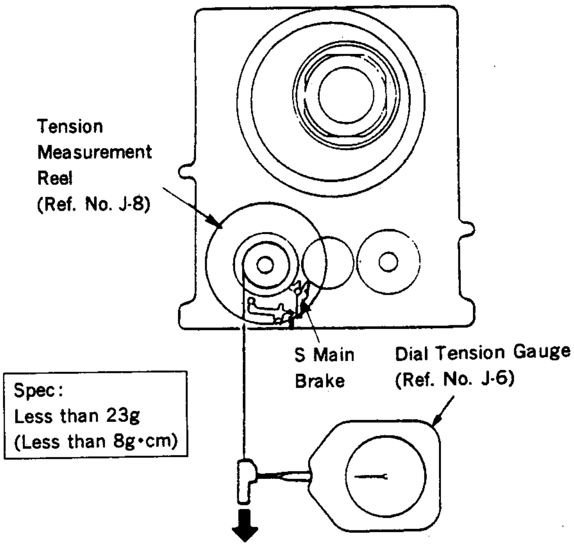
(1) Set the Tension Measurement Reel on the S Reel Table and put the Dial Tension Gauge at the end of the string.

(2) Pull out the Dial Tension Gauge in the direction of the arrows and check that those readings meet the required specifications as shown in figure 1 and 2.

Note: Both S Main Brake and S Soft Brake work in the FF/REW mode.

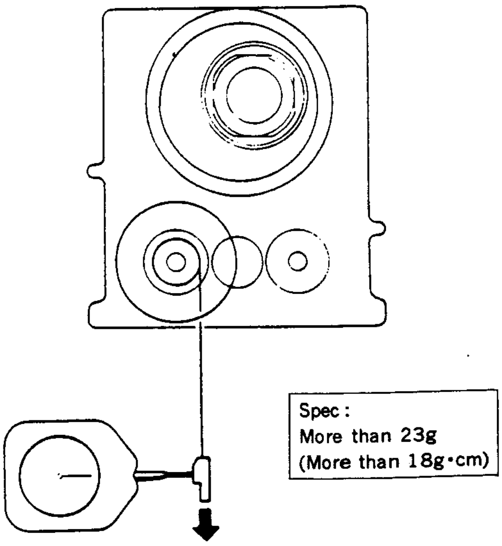
Adjustment Procedure:

(1) If the reading do not meet the required specification, replace the S Main Brake or S Reel Table Assembly.


Tension Measurement Reel (Ref. No. J-8)
S Main Brake
Dial Tension Gauge (Ref. No. J-6)

Spec:
Less than 23g
(Less than 8g•cm)

Fig. 1



Spec:
More than 23g
(More than 18g•cm)

Fig. 2

2. T Main Brake Torque

Tools: Mode Selector (Ref. No. J-13)
Tension Measurement Reel
(Ref. No. J-8)
Dial Tension Gauge (Ref. No. J-6)

Mode: Press the M-mode select button of the Mode Selector and set to the FF/REW mode.

Check Procedure:

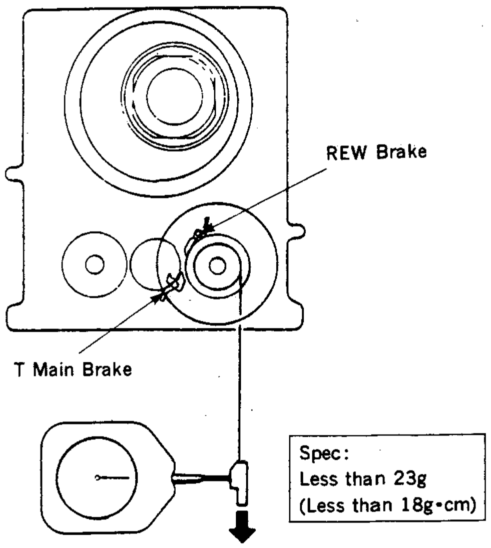
(1) Set the Tension Measurement Reel on the T Reel Table and put the Dial Tension Gauge at the end of the string.

(2) Pull out the Dial Tension Gauge in the direction of the arrows and check that these readings meet the required specifications as shown in figure 1 and 2.

Note: Both T Main Brake and REW Brake work in the FF/REW mode.

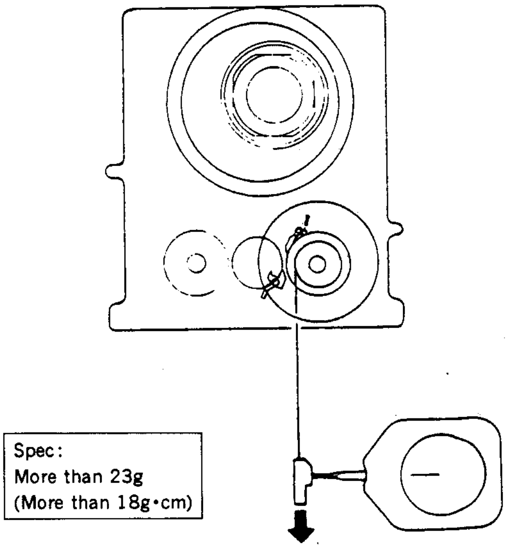
Adjustment Procedure:

(1) If the reading do not meet the required specification, replace T Main Brake or T Reel Table.



Spec:
Less than 23g
(Less than 18g·cm)

Fig. 1



Spec:
More than 23g
(More than 18g·cm)

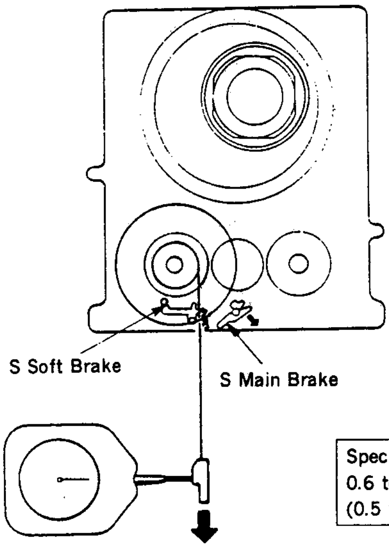
Fig. 2

7-3-2. CHECK OF THE SOFT BRAKE TORQUE

1. S Side Soft Brake Torque

Tools: Mode Selector (Ref. No. J-13)
Tension Measurement Reel
(Ref. No. J-8)
Dial Tension Gauge (Ref. No. J-6)

Mode: Press the M-mode select button of the Mode Selector and set to the FF/REW mode.



Spec:
0.6 to 3.1g
(0.5 to 2.5g•cm)

Check Procedure:

(1) Set the Tension Measurement Reel on the S Reel Table and put the Dial Tension Gauge at the end of the string.
(2) Release the S Main Brake by hand.
(3) While releasing the S Main Brake, pull out the Dial Tension Gauge in the direction of the arrow. Check that this reading meets the required specification.

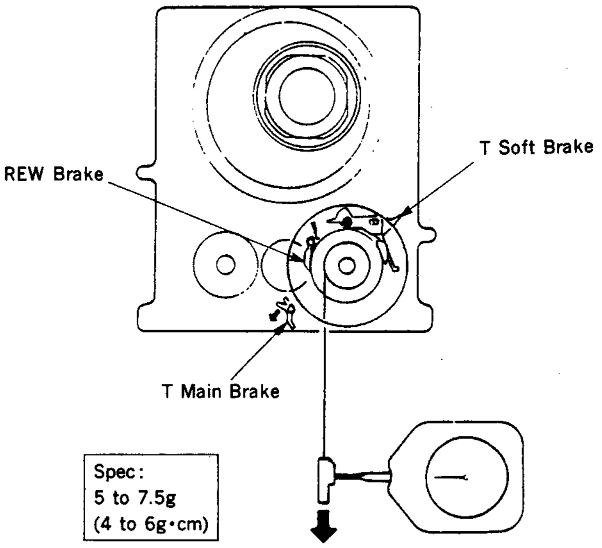
Adjustment Procedure:

(1) Adjust the strength of S Soft Brake Spring by streching or cutting.

2. T Side Soft Brake Torque

Tools: Mode Selector (Ref. No. J-13)
Tension Measurement Reel
(Ref. No. J-8)
Dial Tension Gauge (Ref. No. J-6)

Mode: Press the M-mode button of the Mode Selector and set to the $\boxed{\text{RVS}}$ mode.



Check Procedure:

(1) Set the Tension Measurement Reel on the T Reel Table and put the Dial Tension Gauge at the end of the string.

(2) Release the T Main Brake by hand.

(3) While releasing the S Main Brake, pull out the Dial Tension Gauge in the direction of the arrow. Check that this reading meets the required specification.

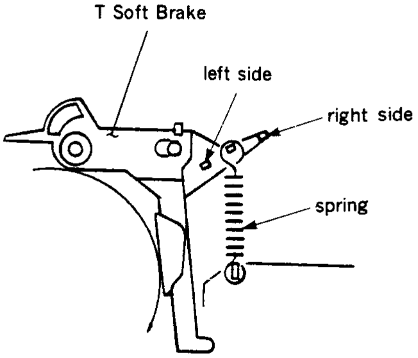
Note: Both T Soft Brake and REW Brake work in the RVS mode.

Adjustment Procedure:

(1) Change the position of the tension spring which is hooked to the T Soft Brake.

. more than the spec. : Hook the left side.
. less than the spec. : Hook the right side.

(2) If the reading do not meet the required specification with Step (1), replace the T Soft Brake or REW Brake, or both of them.



7-3-3. CHECK OF THE REW BRAKE TORQUE

Tools: Mode Selector (Ref. No. J-13)
Tension Measurement Reel
(Ref. No. J-8)
Dial Tension Gauge (Ref. No. J-6)

Mode: Press the M-mode select button of the Mode Selector and set to the FF/REW mode.

Check procedure:

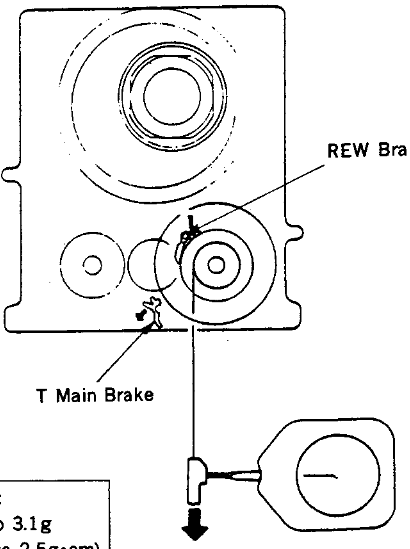
(1) Set the Tension Measurement Reel on the T Reel Table and put the Dial Tension Gauge at the end of the string.

(2) Release the T Main Brake by hand.

(3) While the releasing the T Main Brake, pull out the Dial Tension Gauge in the direction of the arrow. Check that this reading meet the required specification.

Adjustment Procedure:

(1) Adjust the strength of the tension spring by streching or cutting, or replace the REW Brake with a new one.



Spec:
0.6 to 3.1g
(0.5 to 2.5g•cm)

7-3-4. CHECK BY THE FWD, RVS TAKE-UP TORQUE CASSETTE

Tool: FWD, RVS take-up torque cassette
(Ref. No. J-12)

Mode: PLAY mode

Check Procedure:

(1) Insert the FWD, RVS take-up torque cassette in the unit.

(2) Put the unit into the PLAY mode, check that the torque reading of the T Reel Table meets the required specification.

Spec. : 9.5 to 15.5 g.cm

(3) Put the unit into the PLAY mode and press the REW button. Immediately check that the torque reading of the S Reel Table meets the required specification.

Spec. : 17 to 23 g.cm

Adjustment procedure:

(1) If the readings do not meet the required specifications, replace each Reel Table Assembly.

7-3-5. FWD BACK TENSION ADJUSTMENT

Tools: Mode Selector (Ref. No. J-13)
Tension Measurement Reel
(Ref. No. J-7)
Dial Tension Gauge (Ref. No. J-6)

Mode: Press the L-mode select button of the Mode Selector and set to the LOADING END Press the M-mode select button and set to the FWD mode.

Check Procedure:

(1) Remove the Cassette-up Compartment referring to Section 2-13.

(2) Press the L-mode select button of the Mode Selector and set to the LOADING END mode. Press the M-mode select button and set to the FWD mode.

(3) Loosen the fixing screw and move the Band Adjustment Plate in the direction of the arrow A. Check the possible movement range θ of the No. 1 Guide.

(4) Tighten the fixing screw where the No. 1 Guide Cap is positioned at one-third of θ.

(5) Set the Tension Measurement Reel on the S Reel Table and trail the tape along the No. 1 Guide, No. 2 Guide, No. 3 Guide, IP Roller Guide and Drum.

(6) Put the Dial Tension Geauge at the end of the tape. Pull out the Dial Tension Gauge at a contact speed approx. 15cm/sec. in the direction of the arrow B. At this time, check that this reading meets the required specification.

Spec. : 12 to 14 g

Adjustment Procudure:

(1) If the reading do not meet the required specification, change the position of the tension spring which is hooked to the Tension Regulator Spring Hook Assembly.
 . more than the Spec. :
  the direction of the arrow C
 . less than the Spec. :
  the direction of the arrow D

NOTE:

When replacing the parts as follows, perform the FWD Back Tension Adjustment.

. Tension Regulator Band Assembly
. S Reel Table Assembly
. Entrance Guide (P) Assembly

When replacing these parts, perform the free running in the FWD mode for two minutes and then adjust the FWD Back Tension.

Adjustment Procudure:

(1) Install the Cassette-up Compartment Assembly with Removal Steps Section 2-13 in reverse order.

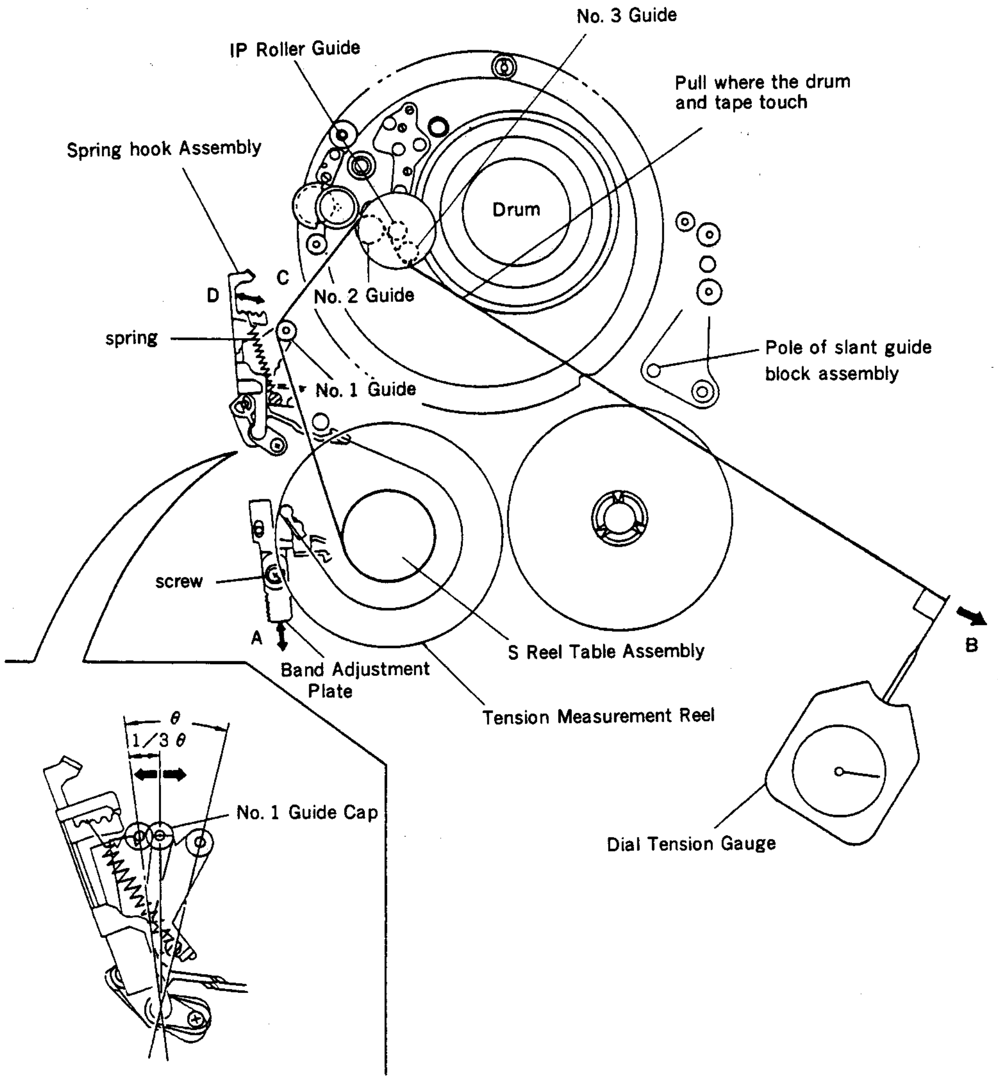
(2) Install the Mechanical Deck with Removal Steps Section 2-5 in reverse order.

(3) Insert the cassette tape in the unit and perform the FWD running for two minutes.

(4) Eject the cassette tape.

(5) Remove the Mechanical Deck from the unit referring to Section 2-5.

(6) Perform the FWD Back Tension Adjustment referring to Section 7-3-5.


No. 3 Guide
IP Roller Guide
Pull where the drum and tape touch
Spring hook Assembly
Drum
C
D
No. 2 Guide
spring
Pole of slant guide block assembly
No. 1 Guide
screw
A
B
S Reel Table Assembly
Band Adjustment Plate
Tension Measurement Reel
θ
1/3 θ
No. 1 Guide Cap
Dial Tension Gauge

7-4. TAPE PATH ADJUSTMENT

After check that the Electrical Adjustments (Sections 8) are completed, perform this adjustment.

Alignment Information

Track Shift Tool

The 8 mm Video System employs a high precision tracking ATF (Auto Track Finding) system which instantaneously controls the tape running speed with four kinds of pilot signals. In this way, the Tracking Adjustment Knob is unnecessary and it is possible to trace with accuracy. On the other hand, the adjustment of the Tape Path System was difficult in the ATF system. It was impossible to adjust perfectly because the ATF system automatically corrected even it small miss-tracking occurs. Then the Track Shift Tool (Ref. No. J-14) is used in the adjustment of Tape Path System. The Track Shift Tool can forcibly release the ATF system and can easly adjust the Tape Path System by setting the tracking amout (track shift) manually.

7-4-1. CONNECTION OF THE TRACK SHIFT TOOL

Use the connection cords (Ref. No. J-15 and J-16) for connection. Connect the Track Shift Tool and the unit as shown in figure 1.

- RF/SWP connector ...
  to CN004 on the FR-43 Board
- CTL connector ...
  to CN906 on the SE-10 Board

(Please refer to operation manual of the Track Shift Tool for details.)

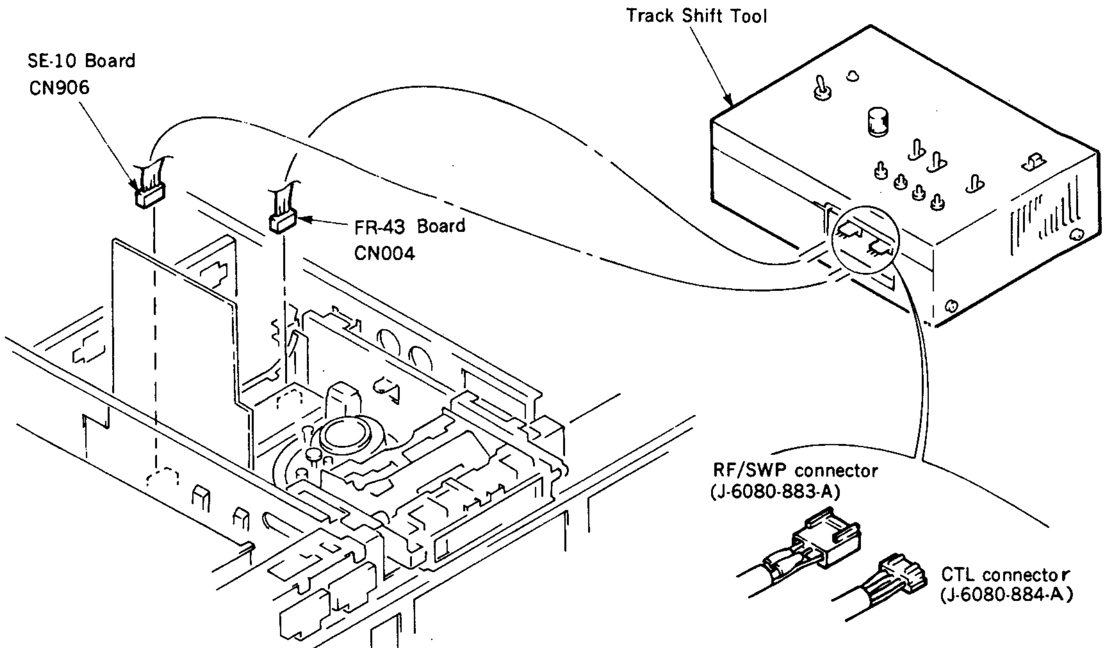
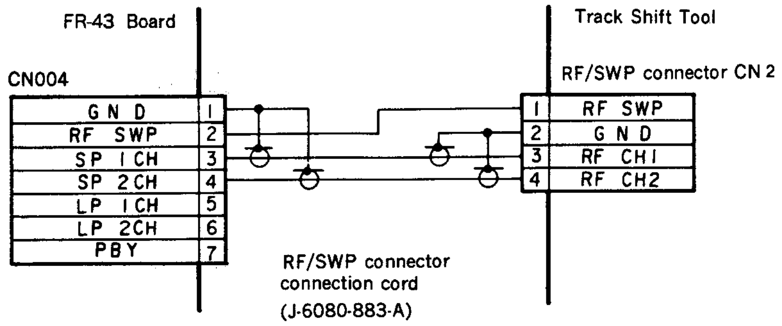


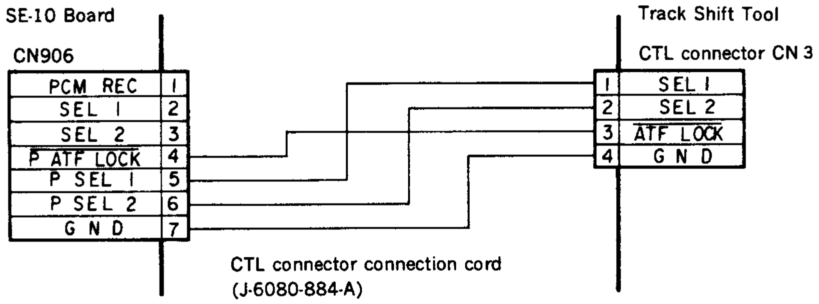
Fig. 1

[Designated Connecting Cord]

- RF/SWP connector connection cord
  (Part No. J-6080-883-A)


FR-43 Board
CN004
G N D 1
RF SWP 2
SP 1 CH 3
SP 2 CH 4
LP 1 CH 5
LP 2 CH 6
PBY 7
Track Shift Tool
RF/SWP connector CN 2
1 RF SWP
2 G N D
3 RF CH1
4 RF CH2
RF/SWP connector
connection cord
(J-6080-883-A)

- CTL connector connection cord
  (Part No. J-6080-884-A)


SE-10 Board
CN906
PCM REC 1
SEL 1 2
SEL 2 3
P ATF LOCK 4
P SEL 1 5
P SEL 2 6
G N D 7
Track Shift Tool
CTL connector CN 3
1 SEL 1
2 SEL 2
3 ATF LOCK
4 G N D
CTL connector connection cord
(J-6080-884-A)

[Setting of the Switches]

SEL switch

When performing the track shift, set the switch to ON. When setting to OFF, the unit side controls.

PATTERN swich

Set to EV side.

ATF ADJ

Set to OFF side.

When adjusting EVO-9500P, the other switches are not used.

7-4-2. PREPARATION FOR ADJUSTMENT

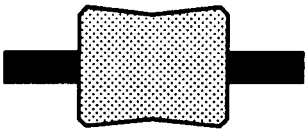
Tools: Track Shift Tool (Ref. No. J-14)
RF/SWP connector (Ref. No. J-15)
CTL connector (Ref. No. J-16)
Oscilloscope
Alignment tape for tracking
(WR5-1CP) (Ref. No. J-5)

(1) Clean the tape path surface (the individual tape guides, drum, capstan shaft and pinch roller).

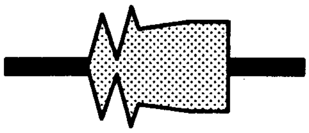
(2) Connection of the oscilloscope
1CH: C.H2 checking pin of the Track Shift Tool
EXT TRIG:RF SWP checking pin of the Track Shift Tool

(3) Set the SEL switch of the Track Shift Tool to OFF and play back the alignment tape for tracking (WR5-1CP). Check that the RF waveforms of both entrance and exit sides are flat. (fig. 1 ⓐ) If the RF waveforms of both sides are not flat, adjust them as follows.

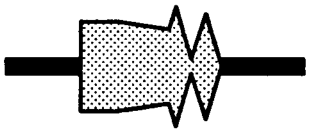
- In case of the RF waveform at the entrance side is not flat. (fig. 1 ⓑ)
  ... Perform entrance Side Adjustment referring to Section 7-4-4.
- In case of the RF wavefrom at the exit side is not flat. (fig. 1 ⓒ)
  ... Perform Exit Side Adjustment referring to Section 7-4-5.



ⓐNormal



ⓑEntrance side is defective.



ⓒExit Side is defective.

Fig. 1

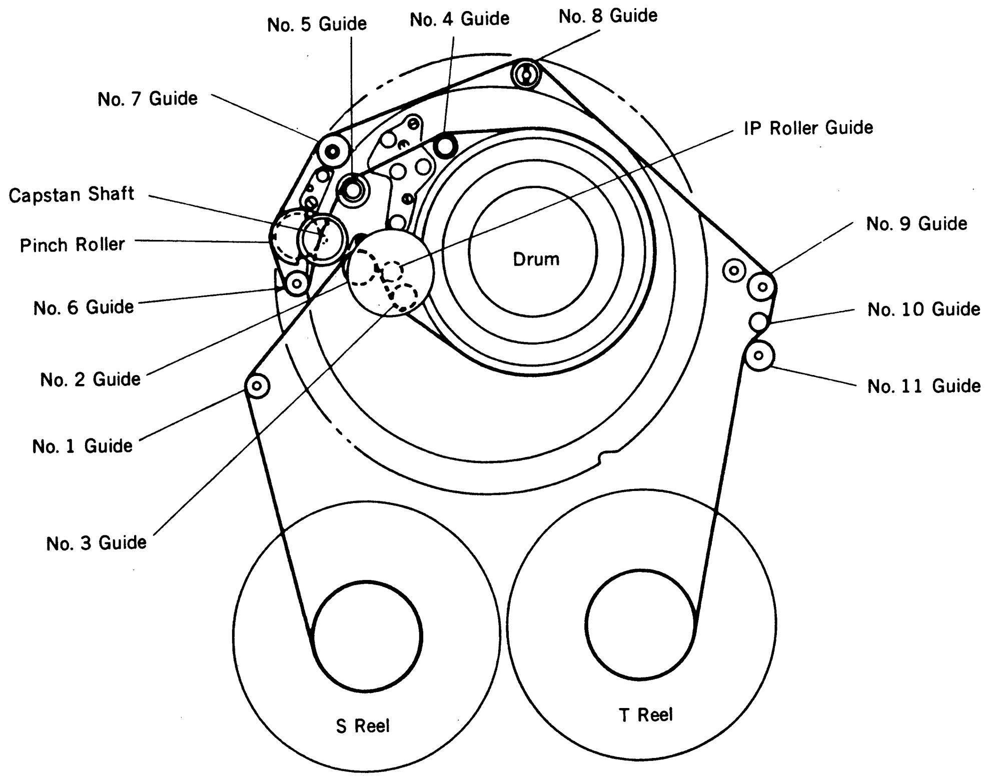
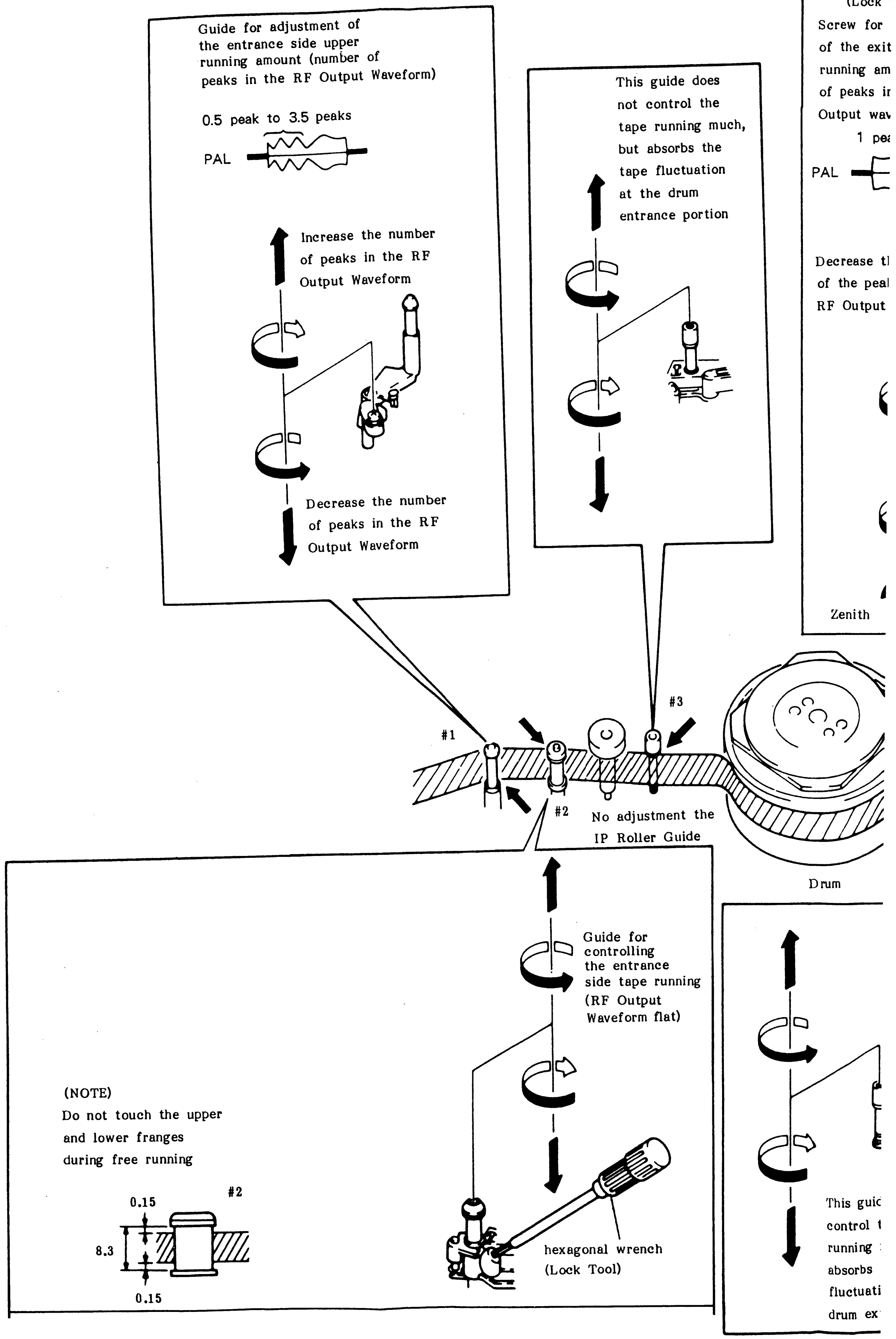

No. 5 Guide
No. 4 Guide
No. 8 Guide
No. 7 Guide
IP Roller Guide
Capstan Shaft
Pinch Roller
Drum
No. 9 Guide
No. 6 Guide
No. 10 Guide
No. 2 Guide
No. 11 Guide
No. 1 Guide
No. 3 Guide
S Reel
T Reel

Fig. 2 Tape Guide Arrangement Diagram

7-4-3. TAPE PATH SYSTEM ADJUSTMENT TABLE


0.5 peak to 3.5 peaks
PAL
#1
#2
#3
Drum
hexagonal wrench
(Lock Tool)
0.15
#2
8.3
0.15
PAL
1 pea
Zenith

Guide for adjustment of the entrance side upper running amount (number of peaks in the RF Output Waveform)

Increase the number of peaks in the RF Output Waveform

Decrease the number of peaks in the RF Output Waveform

This guide does not control the tape running much, but absorbs the tape fluctuation at the drum entrance portion

No adjustment the IP Roller Guide

Guide for controlling the entrance side tape running (RF Output Waveform flat)

(NOTE)
Do not touch the upper and lower franges during free running

flatbra
(Lock '
Screw for
of the exit
running am
of peaks ir
Output wav

Decrease tl
of the peal
RF Output

This guic
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running
absorbs
fluctuati
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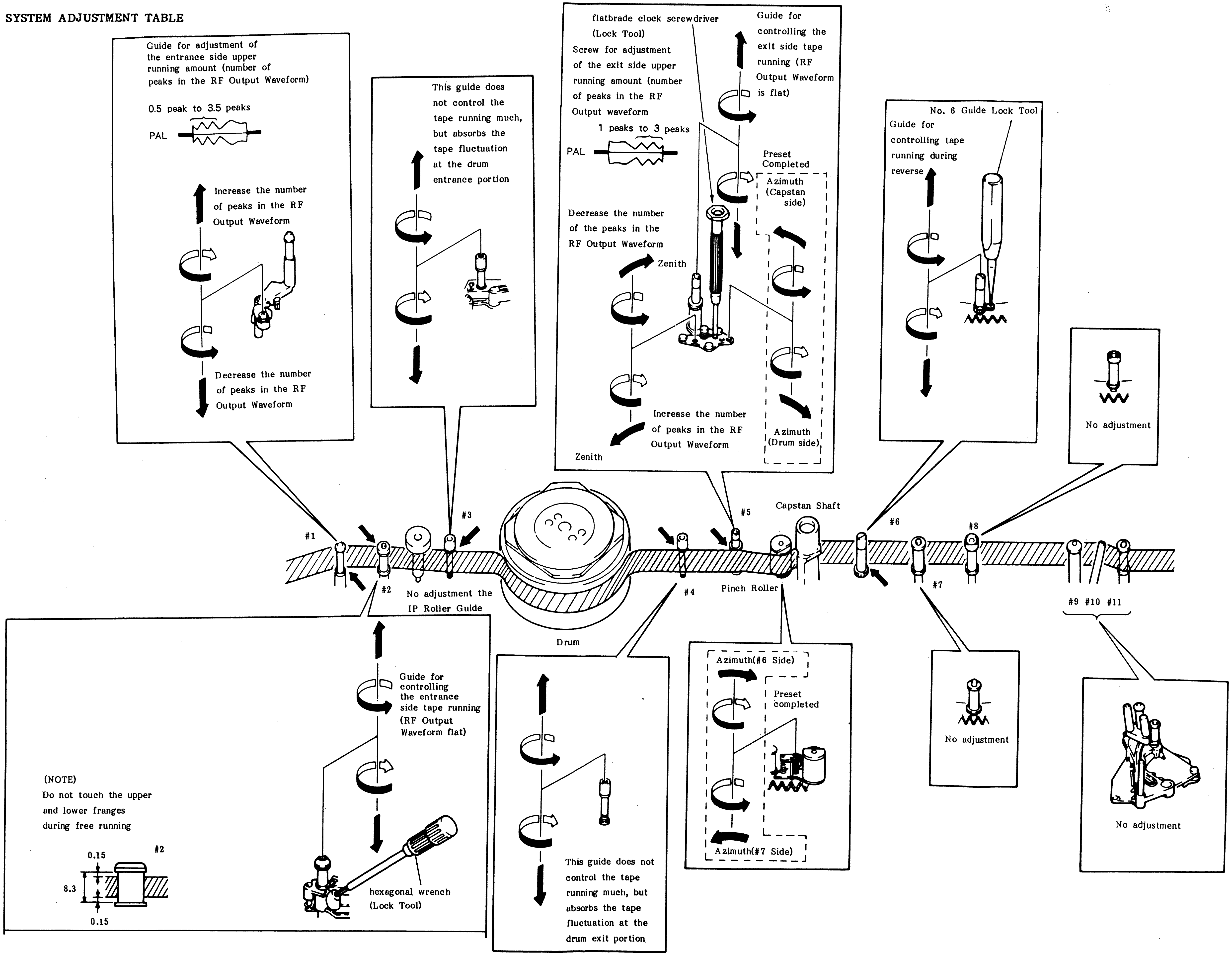
7-4-3. TAPE PATH SYSTEM ADJUSTMENT TABLE



Guide for adjustment of the entrance side upper running amount (number of peaks in the RF Output Waveform)

Increase the number of peaks in the RF Output Waveform

Decrease the number of peaks in the RF Output Waveform

This guide does not control the tape running much, but absorbs the tape fluctuation at the drum entrance portion

flatbrade clock screwdriver (Lock Tool)

Screw for adjustment of the exit side upper running amount (number of peaks in the RF Output waveform

Guide for controlling the exit side tape running (RF Output Waveform is flat)

Decrease the number of the peaks in the RF Output Waveform

Increase the number of peaks in the RF Output Waveform

No. 6 Guide Lock Tool

Guide for controlling tape running during reverse

No adjustment the IP Roller Guide

Guide for controlling the entrance side tape running (RF Output Waveform flat)

(NOTE)
Do not touch the upper and lower franges during free running

hexagonal wrench (Lock Tool)

This guide does not control the tape running much, but absorbs the tape fluctuation at the drum exit portion

No adjustment

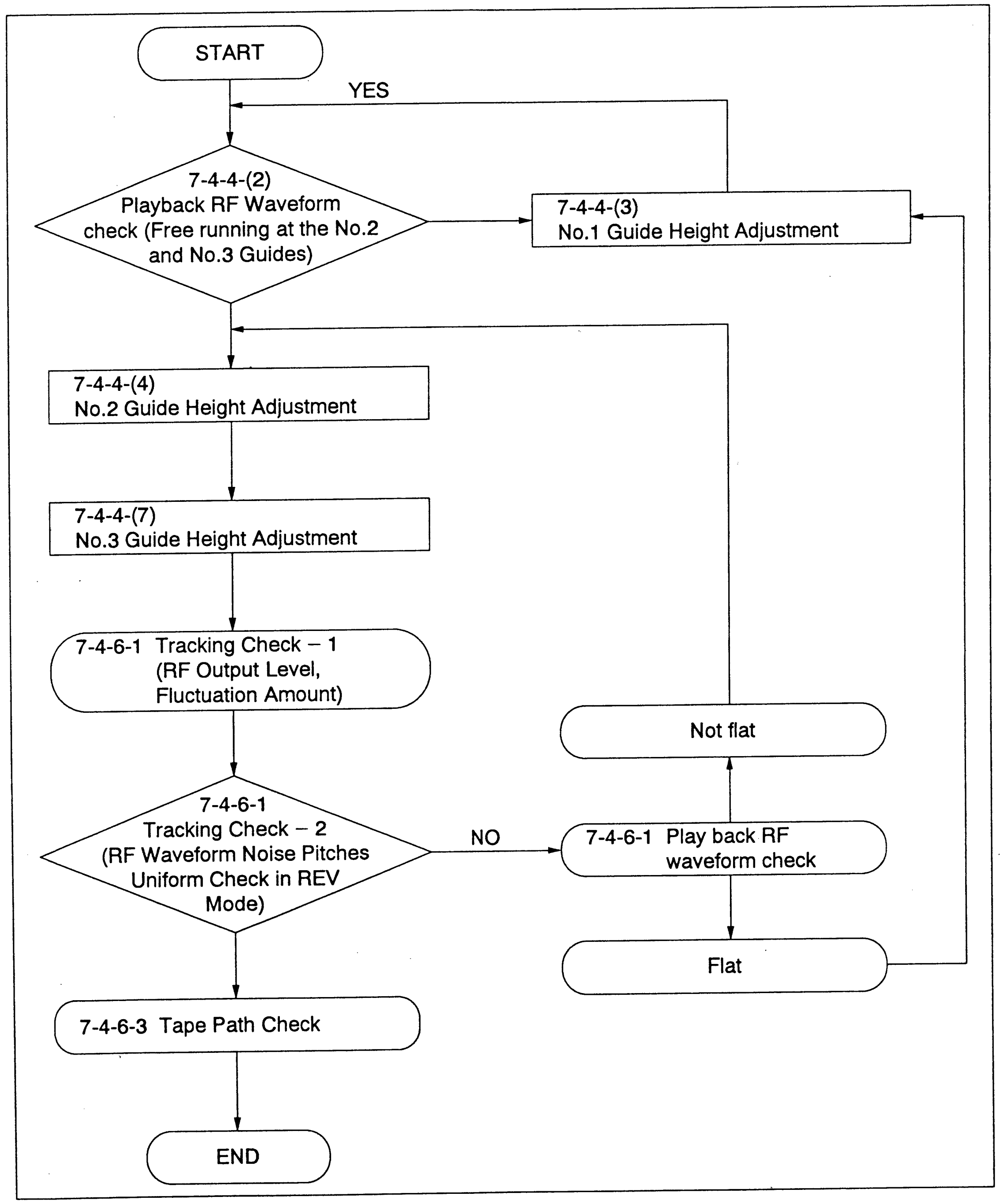
No adjustment

No adjustment

0.5 peak to 3.5 peaks
PAL
1 peaks to 3 peaks
PAL
Zenith
Zenith
Preset Completed
Azimuth (Capstan side)
Azimuth (Drum side)
#1
#2
#3
#4
#5
#6
#7
#8
#9 #10 #11
Capstan Shaft
Pinch Roller
Drum
Azimuth(#6 Side)
Preset completed
Azimuth(#7 Side)
#2
0.15
8.3
0.15

7-4-4. Tape Entrance Side Adjustment

Flow Chart of Adjustment


START
YES
7-4-4-(2)
Playback RF Waveform
check (Free running at the No.2
and No.3 Guides)
7-4-4-(3)
No.1 Guide Height Adjustment
7-4-4-(4)
No.2 Guide Height Adjustment
7-4-4-(7)
No.3 Guide Height Adjustment
7-4-6-1 Tracking Check – 1
(RF Output Level,
Fluctuation Amount)
Not flat
7-4-6-1
Tracking Check – 2
(RF Waveform Noise Pitches
Uniform Check in REV
Mode)
NO
7-4-6-1 Play back RF
waveform check
Flat
7-4-6-3 Tape Path Check
END

Mode: Play back the alignment tape

Tools: Alignment tape for tracking
(WR5-1CP) (Ref. No. J-5)
Oscilloscope
Track Shift Tool (Ref. No. J-14)
RF/SWP connector (Ref. No. J-15)
CTL connector (Ref. No. J-16)
Hexagonal screwdriver (across flat has 0.89 mm) (Ref. No J-17)
Small adjustment mirror (Ref. No. J-4)

Preparation:

(i) Remove the Top Plate referring to Section 2-1.

(ii) Open the MB-19 Board referring to Section 2-8.

(iii) Connect the Track Shift Tool and oscilloscope to the unit referring to Sections 7-4-1 and 7-4-2.

(iv) Play back the alignment tape.

Procedure:

(1) Remove the Fly Wheel referring to Section 7-2-1.

(2) Loosen the No. 2 Guide Lock Screw and turn the No. 2 and No. 3 Guides counterclockwise to free the tape path at the entrance side. (fig. 1 and 2)

Note: The space between upper and lower flanges of the No. 2 Guide is narrow. Therefore, then check that the tape is not touch the upper and lower flanges. If loosen the No. 2 Guide too much, the tape touches the lower flange and the RF waveform at the entrance side exceeds the original free waveform.

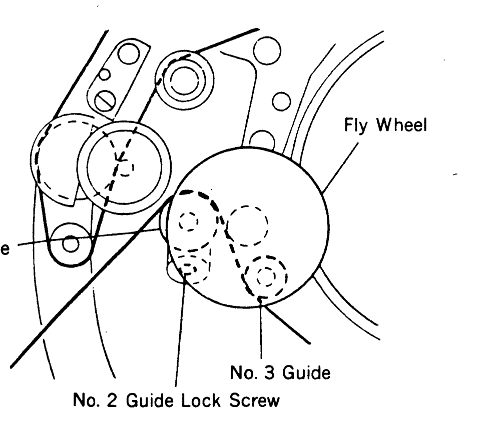

Fly Wheel
No. 2 Guide
No. 3 Guide
No. 2 Guide Lock Screw

Fig. 1

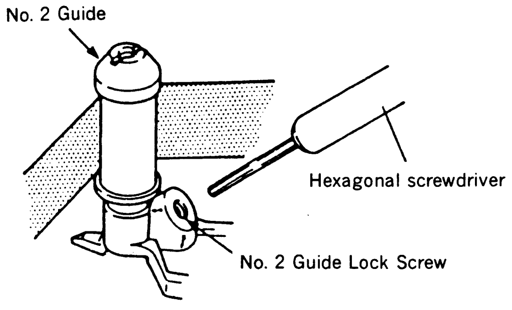

No. 2 Guide
Hexagonal screwdriver
No. 2 Guide Lock Screw

Fig. 2

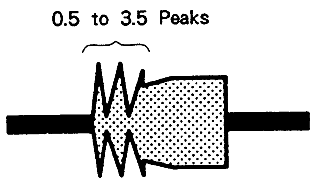

0.5 to 3.5 Peaks

Fig. 3

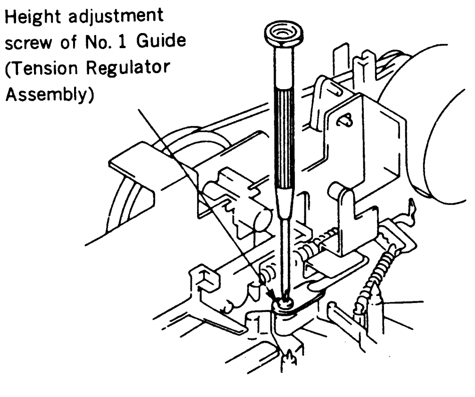

Height adjustment
screw of No. 1 Guide
(Tension Regulator
Assembly)

Fig. 4

(3) Ch
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(6) T
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7)

(7) F
G

(8) T
G

(9) S
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(10) I
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Note:

Mode: Play back the alignment tape

Tools: Alignment tape for tracking (WR5-1CP) (Ref. No. J-5)
Oscilloscope
Track Shift Tool (Ref. No. J-14)
RF/SWP connector (Ref. No. J-15)
CTL connector (Ref. No. J-16)
Hexagonal screwdriver (across flat has 0.89 mm) (Ref. No J-17)
Small adjustment mirror (Ref. No. J-4)

Preparation:

(i) Remove the Top Plate referring to Section 2-1.
(ii) Open the MB-19 Board referring to Section 2-8.
(iii) Connect the Track Shift Tool and oscilloscope to the unit referring to Sections 7-4-1 and 7-4-2.
(iv) Play back the alignment tape.

Procedure:

(1) Remove the Fly Wheel referring to Section 7-2-1.
(2) Loosen the No. 2 Guide Lock Screw and turn the No. 2 and No. 3 Guides counterclockwise to free the tape path at the entrance side. (fig. 1 and 2)

Note: The space between upper and lower flanges of the No. 2 Guide is narrow. Therefore, then check that the tape is not touch the upper and lower flanges. If loosen the No. 2 Guide too much, the tape touches the lower flange and the RF waveform at the entrance side exceeds the original free waveform.

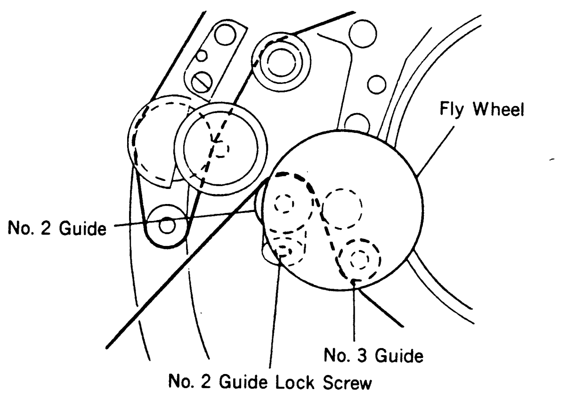

Fly Wheel
No. 2 Guide
No. 3 Guide
No. 2 Guide Lock Screw

Fig. 1

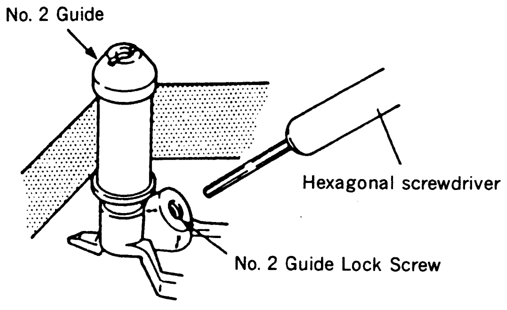

No. 2 Guide
Hexagonal screwdriver
No. 2 Guide Lock Screw

Fig. 2

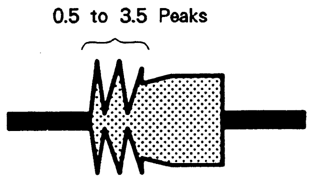

0.5 to 3.5 Peaks

Fig. 3

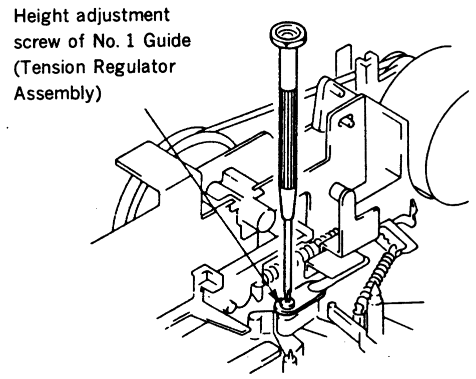

Height adjustment screw of No. 1 Guide (Tension Regulator Assembly)

Fig. 4

(3) Check that the RF waveform at the entrance side has 0.5 to 3.5 peaks in this condition. If not, adjust as follows. (fig. 3)
- less than 0.5 peak
  Turn and adjust the height adjustment screw of the No. 1 Guide (Tension Regulator Arm Assembly) clockwise 90 degrees step. (fig. 4)
- more than 3.5 peaks
  Turn and adjust the height adjustment screw counterclockwise 90 degrees step. (fig. 4)

(4) Turn slowly the No. 2 Guide clockwise so that flatten the waveform at the entrance side. (fig. 5)
Note: At this time, do not turn the No. 2 Guide too much.
(5) Set the SEL switch of the Track Shift Tool to ON. Turn the Track Shift Knob and set the amplitude of the RF waveform to two-third position. (fig. 6)
(6) Turn the No. 2 Guide and raise the entrance side waveform sightly. (fig. 7)
(7) Flatten the waveform with the No. 3 Guide. (fig. 8)
(8) Tighten the lock screw of the No. 2 Guide. (fig. 2)
(9) Smear locking compound to the No. 1 Guide Height Adjustment Screw and top porsion of the No. 3 Guide.
(10) Install the Fly Wheel referring to Section 7-2-1.

Note: After adjustment, perform Check After Adjustment referring to Section 7-4-6.

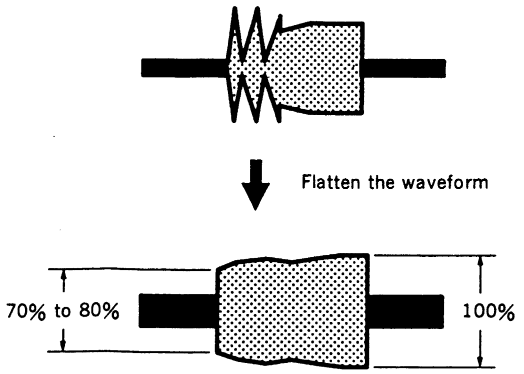

Flatten the waveform
70% to 80%
100%

Fig. 5

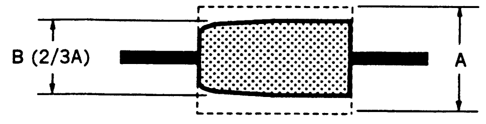
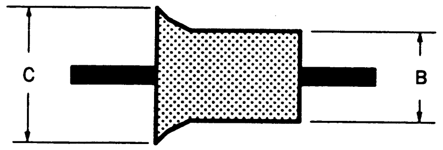


Fig. 6



C=1.15B to 1.25B

Fig. 7

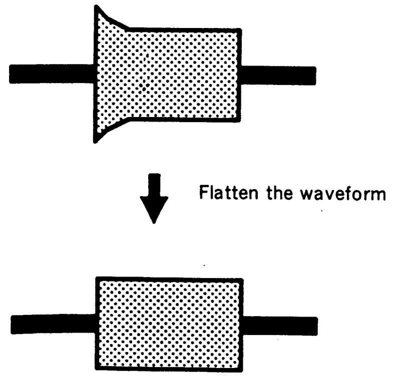
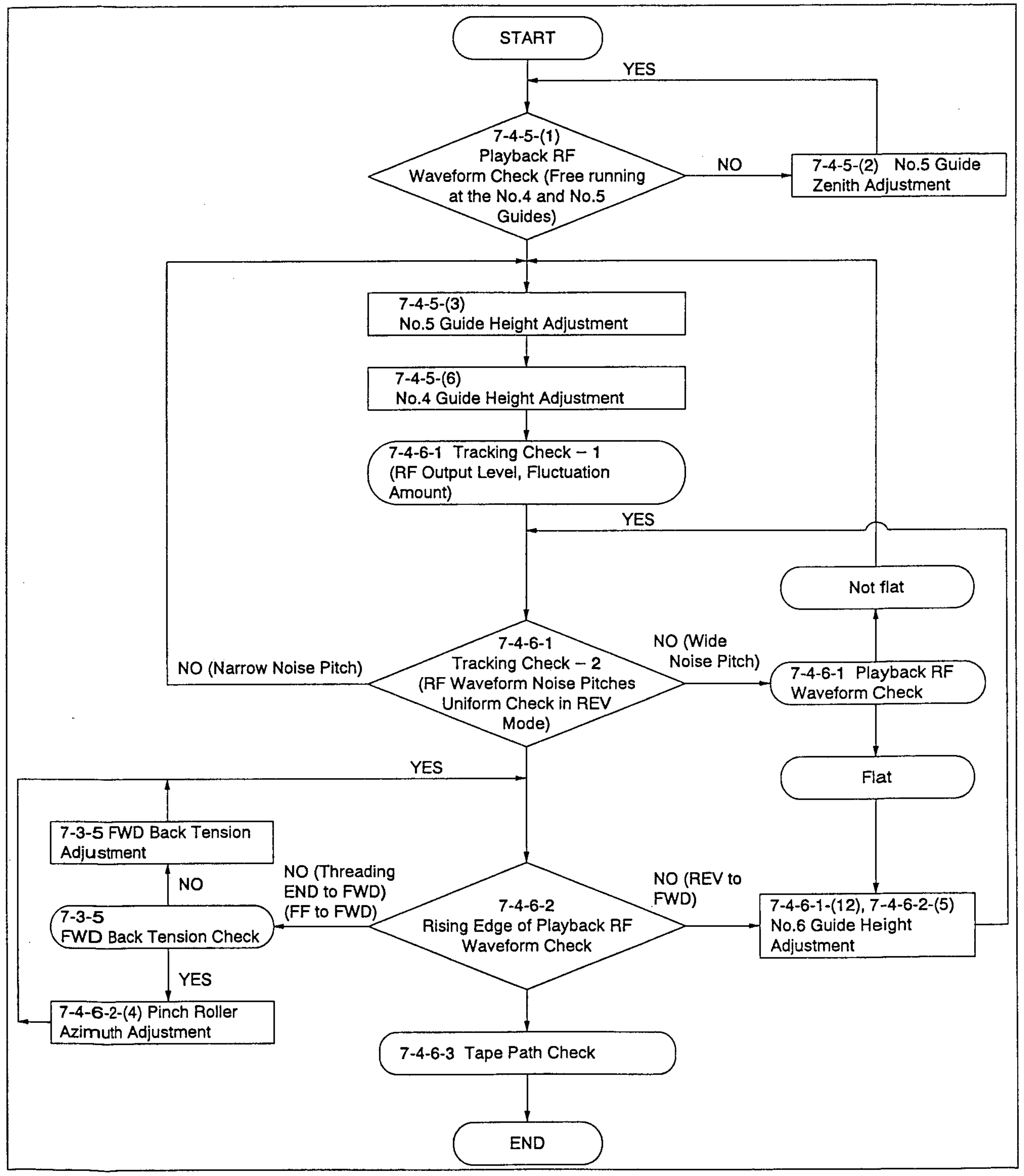

Flatten the waveform

Fig. 8

7-4-5. Tape Exit Side Adjustment

Flow Chart of Adjustment


START
7-4-5-(1) Playback RF Waveform Check (Free running at the No.4 and No.5 Guides)
NO
7-4-5-(2) No.5 Guide Zenith Adjustment
YES
7-4-5-(3) No.5 Guide Height Adjustment
7-4-5-(6) No.4 Guide Height Adjustment
7-4-6-1 Tracking Check – 1 (RF Output Level, Fluctuation Amount)
YES
Not flat
7-4-6-1 Tracking Check – 2 (RF Waveform Noise Pitches Uniform Check in REV Mode)
NO (Narrow Noise Pitch)
NO (Wide Noise Pitch)
7-4-6-1 Playback RF Waveform Check
Flat
YES
7-3-5 FWD Back Tension Adjustment
NO
7-3-5 FWD Back Tension Check
NO (Threading END to FWD) (FF to FWD)
7-4-6-2 Rising Edge of Playback RF Waveform Check
NO (REV to FWD)
7-4-6-1-(12), 7-4-6-2-(5) No.6 Guide Height Adjustment
YES
7-4-6-2-(4) Pinch Roller Azimuth Adjustment
7-4-6-3 Tape Path Check
END

Mode: Play back the alignment tape

Tools: Alignment tape for tracking (WR5-1CP) (Ref. No. J-5)
Oscilloscope
Track Shift Tool (Ref. No. J-14)
RF/SWP connector (Ref. No. J-15)
CTL connector (Ref. No. J-16)
Hexagonal screwdreiver (across flat has 0.89 mm) (Ref. No. J-17)
Small adjustment mirror (Ref. No. J-4)

Preparation:

(i) Remove the Top Plate referring to Section 2-1.
(ii) Open the MB-19 board referring to Section 2-8.
(iii) Connect the Track Shift Tool and oscilloscope to the unit referring to Sections 7-4-1 and 7-4-2.
(iv) Play back the alignment tape.

Procedure:

(1) Turn the No. 4 and No. 5 Guides counterclockwise to free the tape path at the exit side. (fig. 1)

Note: If the No. 5 Guide nut is not loosen because of locking compound, dissolve locking compound with alcohol. Check that the tape does not touch the lower flange of the No. 5 Guide in free running.

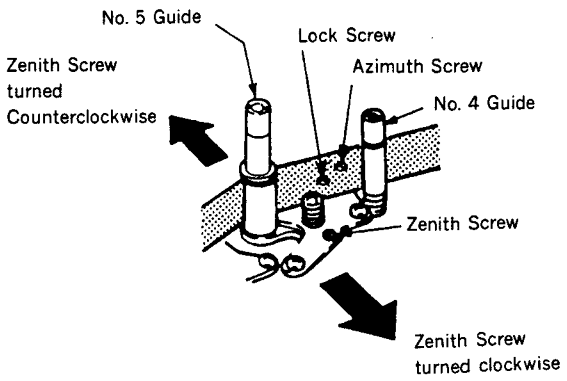

No. 5 Guide
Lock Screw
Zenith Screw turned Counterclockwise
Azimuth Screw
No. 4 Guide
Zenith Screw
Zenith Screw turned clockwise

Fig. 1

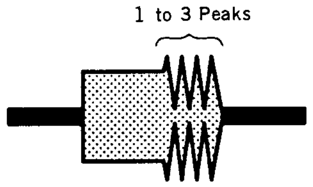


Fig. 2

(2) Check that the RF waveform at the exit side has 1 to 3 peaks in this condition. If not, adjust as follows. (fig. 2)

- Turn and loosen the lock screw counterclockwise.
- less than 1 peaks

  Turn and adjust slowly the zenith screw clockwise 45 degrees step.
- more than 3 peaks

  Turn and adjust slowly the zenith screw of the No. 5 Guide counterclockwise 45 degrees step.

After adjustment, tighten the lock screw clockwise.(fig. 1)

Note: If tighten the lock screw too strongly, the waveform will change. Tighten suitably the lock screw. Never turn the azimuth screw of the No. 5 Guide.

(3) Turn the No. 5 Guide clockwise and flatten the RF waveform at the exit side. (fig. 3)

Note: At this time, the waveform reaction is slow against the nut rotation. After checking that the waveform variation is stabilized, turn the nut more.

(4) Set the SEL switch of the Track Shift Tool to ON. Turn the Track Shift Knob and set the amplitude of the RF waveform to two-third position. (fig. 4)

(5) Turn the No. 5 Guide and raise the exit side waveform sightly. (fig. 5)

(6) Turn the No. 4 Guide and flatten the waveform. (fig. 6)

(7) Smear locking compound to the lock screw, zenith screw and top portions of the No. 4 Guide and No. 5 Guide.

Note: After adjustment, perform Check After Adjustment referring to Section 7-4-6.

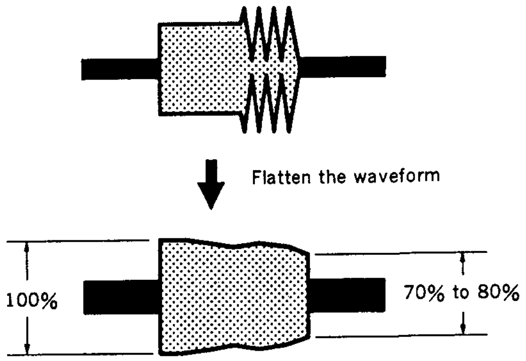


Fig. 3

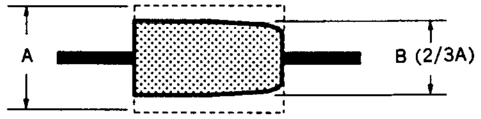
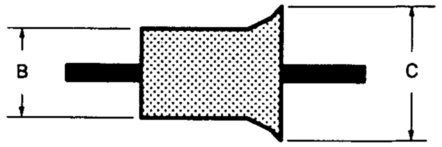


Fig. 4



C=1.15B to 1.25B

Fig. 5

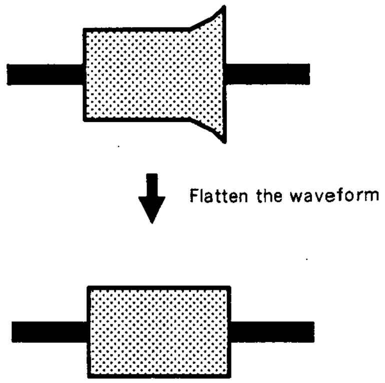


Fig. 6

7-4-6. CHECK AFTER ADJUSTMENT

Tool: No. 6 Guide Lock Screwdriver (Ref. No. J-10)
Alignment tape for tracking (WR5-1CP) (Ref. No. J-5)

1. Video Tracking Check

(1) Play back the alignment tape for tracking.

(2) Set the SEL switch of the Track Shift Tool to ON. Turn the Track Shift Knob and set the amplitude of the RF waveform to two-third position. (fig. 1)

(3) In this time, check that the amplitude minimum value (E MIN) of the RF waveform is more than 75% of maximum value (E MAX). (fig. 2)

(4) In this time, check that the fluctuation amount of th RF waveform at entrance and exit sides meet the reguired specification as shown in figure. 3.

(5) Set the SEL switch of the Track Shift Tool to OFF.

(6) Set to the REV mode and check that the noise pitches of the waveform are uniform. (fig. 4) If not, adjust as follows.

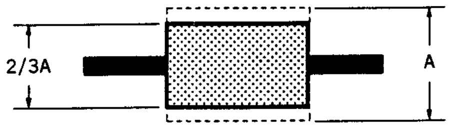


Fig. 1

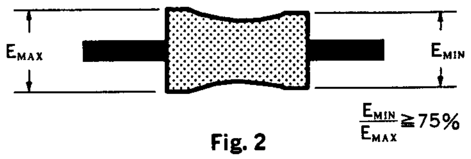

E_{MAX}
E_{MIN}
$\frac{E_{MIN}}{E_{MAX}} \geqq 75\%$

Fig. 2

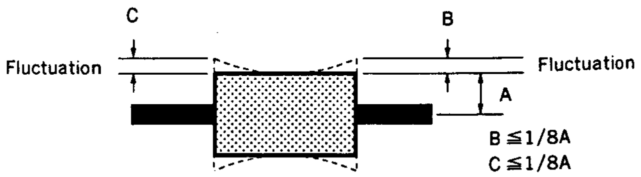

C
B
Fluctuation
Fluctuation
A
B ≦ 1/8A
C ≦ 1/8A

Fig. 3

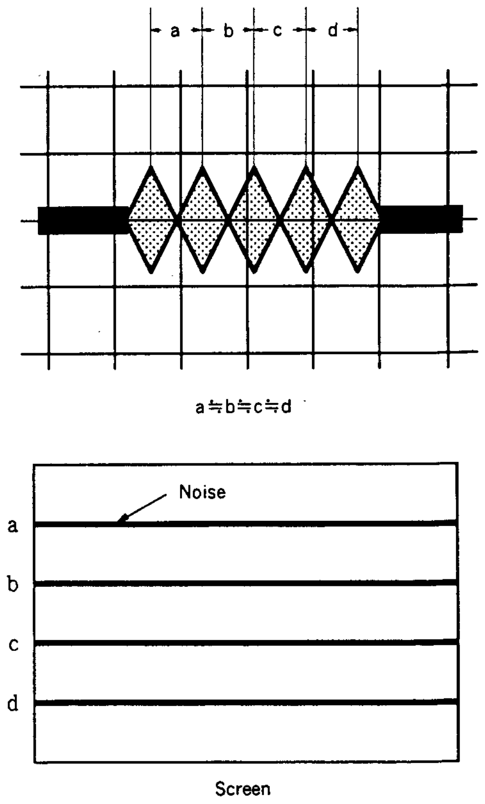

a
b
c
d
a≒b≒c≒d
Noise
a
b
c
d
Screen

Fig. 4

When the Noise pitch is narrow at the entrance side (upper of screen). (fig. 5)

(7) Check that the RF waveform is flat in the PLAY mode.

(8) Perform the height adjustment of the No. 1 Guide referring to Section 7-4-4.

Note: After adjustment, perform the Tracking Check referring to Section 7-4-6-1.

When the RF waveform is not flat.

(9) Perform the height adjustment of the No. 2 and No. 3 Guides referring to Section 7-4-4.

Note: After adjustment, perform the Tracking Check referring to Section 7-4-6-1.

When the noise pitch is narrow at the exit side (lower of screen). (fig. 6)

(10) Set to PLAY mode and perform the height adjustment of the No. 4 and No. 5 Guides referring to Section 7-4-5. After adjustment, perform the Tracking Check referring to Section 7-4-6-1 and check that it meet the required specification.

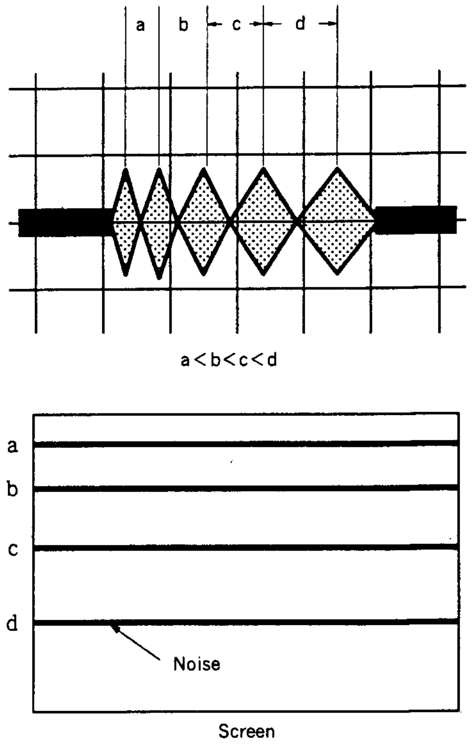


Fig. 5

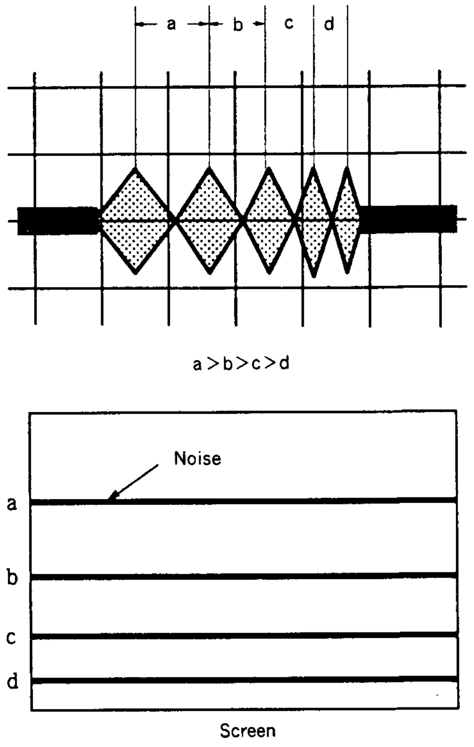


Fig. 6

When the noise pitch is wide at the exit side (lower of screen). (fig. 7)

(11) Set to PLAY mode and check that the RF waveform is flat.

(12) Turn and loosen the Guide Lower Gear counterclockwise with the No. 6 guide lock tool. (fig. 8)

(13) Turn the No. 6 Guide and perform the height adjustment.

Note: At this time, if the No. 6 Guide is raised too much, the wrinkles may occur between the Capstan Shaft and No. 5 Guide (A portion). Check that the wrinkes are not occur. (fig. 9)

(14) Turn and *lock the Guide Lower Gear clockwise with the N0. 6 guide lock tool.

*Touch the Guide Lower Gear against the lower flange of the No. 6 Guide and turn it more about 10 degrees.

Note: After adjustment, perform the Tracking Check referring to Section 7-4-6-1.

When the waveform is not flat.

(15) Perform the height adjustment of the No. 4 and No. 5 Guides referring to Section 7-4-5.

Note: After adjustment, perform the Tracking Check referring to Section 7-4-6-1.

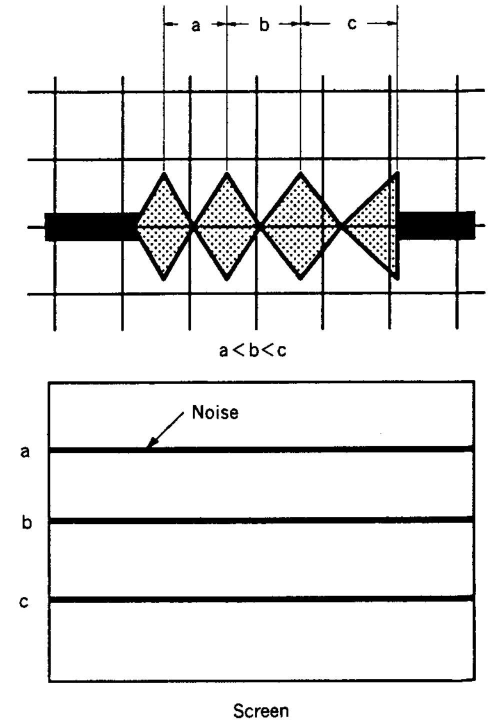


Fig. 7

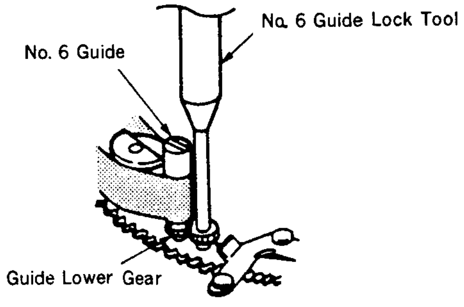


Fig. 8

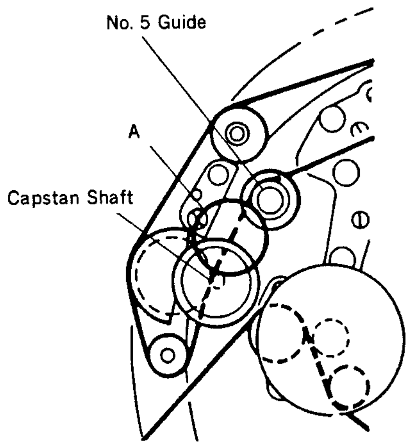


Fig. 9

2. Rising Edge of Waveform Check

(1) Check that the RF waveform rises horizontally (flat waveform) in playback after threading is completed, playback after CUE/REV or FF mode.
If the RF waveform do not rise horizontally (flat waveform), adjust as follows.

In case of the noise occurs at the exit side (lower of screen) at the rising edge of the playback, after threading is completed. (fig. 11)

(2) Check that the FWD Back Tension.

When the FWD Back Tension is too low.

(3) Adjust again referring to FWD Back Tension Adjustment of Section 7-3-5.

When the FWD Back Tension is normal.

(4) While adjusting the waveform at the rising edge of the playback, turn the azimuth screw of the Pinch Roller clockwise about 5 degrees step. Then check the rising edge of waveform.

In case of the noise occurs at the exit side (lower of screen) at the rising edge of the playback after REV mode. (fig. 11)

(5) Turn and loosen the Guide Lower Gear counterclockwise with No. 6 guide lock tool. (fig. 8)

(6) Turn the No. 6 Guide and perform the height adjustment.

Note: At this time, if the No. 6 Guide is raised too much, the wrinkles may occur between the Capstan Shaft and No. 5 Guide(A portion). Check that the wrinkes are not occur. (fig. 9)

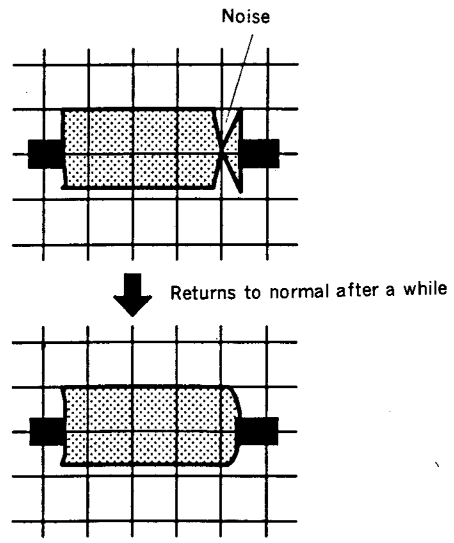


Fig. 11

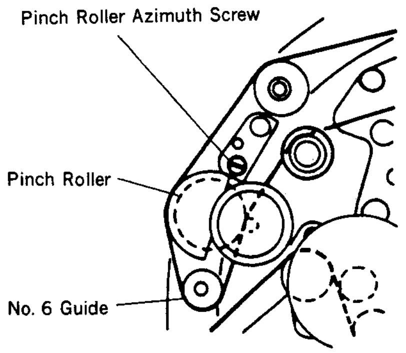


Fig. 12

In case of the noise occurs at the exit side (lower of screen) at the start of the playback after FF mode. (fig. 11)

(7) Check that the FWD Back Tension.

When the FWD Back Tension is too low.

(8) Adjust again referring to FWD Back Tension Adjustment of Section 7-3-5.

When the FWD Back Tension is normal.

(9) While adjusting the waveform at the rising edge of the playback, turn the azimuth screw of the Pinch Roller clockwise about 5 degrees step. Then check the rising edge of waveform. (fig. 12)

Note: After adjustment, be sure to check that waveform again at the rising edge of the playback after threading is completed.

3. Tape Running Check

Check the tape running at the flange of the Guides (shown by arrows) in PLAY and REV modes.

No. 1 Guide No. 2 Guide No. 5 Guide	... Tape runs in contact with upper or lower flange. If tape curl exist, less than 0.3mm at the tape curl is acceptable.
No. 3 Guide No. 6 Guide	... Tape runs in contact with upper or lower flange without curl.
No. 4 Guide	... Tape runs in contact with upper flange. If tape curl exists, less than 0.5mm of tape curl is acceptable.

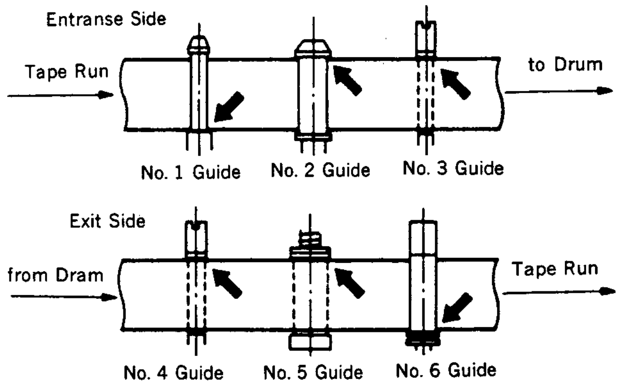

Entranse Side
Tape Run
to Drum
No. 1 Guide
No. 2 Guide
No. 3 Guide
Exit Side
from Dram
Tape Run
No. 4 Guide
No. 5 Guide
No. 6 Guide

Fig. 13

SECTION 8
ELECTRICAL ADJUSTMENT

8-1. POWER SUPPLY ADJUSTMENT

8-1-1. Equipment Required

- Digital voltmeter

8-1-2. UNSW 5V Adjustment

Machine condition for adjustment	Specifications	Adjustments
• STANDBY mode	CN101-2/IF-39 5.4 ± 0.1Vdc	⊘ VR203/ POWER BLOCK

8-1-3. REG +5V Adjustment

Machine condition for adjustment	Specifications	Adjustments
• E-E mode	CN101-5/IF-39 5.2 ± 0.1Vdc	⊘ VR202/ POWER BLOCK

8-1-4. REG +9V Adjustment

Machine condition for adjustment	Specifications	Adjustments
• E-E mode	CN101-10/IF-39 9.0 ± 0.1Vdc	⊘ VR201/ POWER BLOCK

8-2. SERVO SYSTEM ADJUSTMENT

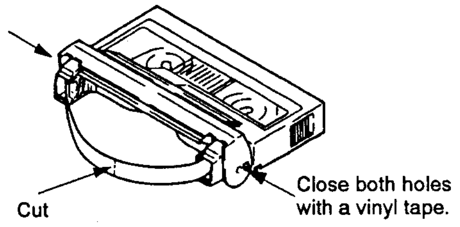
8-2-1. Equipment Required

- Oscilloscope
- Frequency counter
- Digital voltmeter
- Alignment tape

Name (Part No.)	REC mode	Tape Type	Tape Speed	Contents	
				Video Area	PCM Area
SP operation check WR5-8CSE (8-967-995-48)	Hi8	ME	SP	VIDEO SIGNAL Color-bar: 4 min. Monoscope: 4 min. AUDIO SIGNAL (AFM) 400 Hz, 60% modulation	AUDIO SIGNAL (PCM) 400 Hz: 20 min.
LP operation check WR5-8CLE (8-967-995-57)	Hi8	ME	LP	VIDEO SIGNAL Color-bar: 4 min. Monoscope: 4 min. AUDIO SIGNAL (AFM) 400 Hz, 60% modulation	AUDIO SIGNAL (PCM) 400 Hz: 40 min.
Tracking check WR5-1CP (8-967-995-07)	STD	MP	SP	CH2: 1MHz tape path adjustment signal switching position adjustment marker (CH1: 9 MHz)	

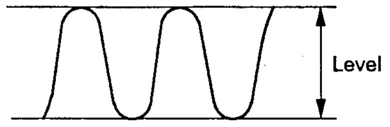
- Empty cassette (See below.)

1. Draw out a tape and cut it.
2. Cover two holes on both side of the cassette with a vinyl tape.



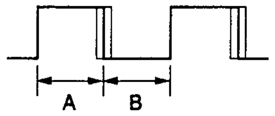
8-2-2. DS Clock Check

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color-bar signal • STOP mode	TP107/SE-10P (C-5) Level=more than 2.5 Vp-p Frequency=4433619 ± 300 Hz	



8-2-3. Capstan FG Duty Adjustment

When adjusting the MD-23P board, remove CN902 (12 Pin) and CN903 (13 Pin) on the SE-10P board then remove the mechanical block (core block) from the chassis. The VTR is operated by pressing the buttons on the MB-19P board.

Machine condition for adjustment	Specifications	Adjustments
• Connect each TP001 AND TP002 on the SE-10P board to ground with jumper wires. • Insert the empty cassette tape and put the machine into the play back mode. • After adjustment, remove the jumper wires.	TP105/SE-10P (D-4)  A ≒ B	⊘ RV801/MD-23P (D-3)

8-2-4. Reel FG Adjustment

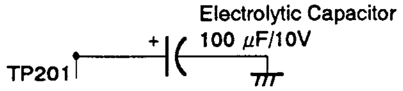
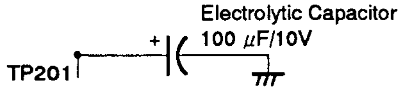
Machine condition for adjustment	Specifications	Adjustments
• Play back the alignment tape WR5-8CLE.	TP901/MD-23P (G-1) 21 ± 1 Hz	⊘ RV901/MD-23P (G-1)
• Perform confirmation while playing back the alignment tape WR5-8CLE.	TP902/MD-23P (E-1) 1.0 through 1.4Vdc	
• Perform confirmation while playing back the alignment tape WR5-8CLE with CUE (×9) mode. CUE (×9): After pressing the PB button, press the FF button on the MB-19P Board.	TP901/MD-23P (G-1) 37 through 50 Hz TP902/MD-23P (E-1) 1.4 through 1.9Vdc	

Note: After adjustment, install the mechanical block.

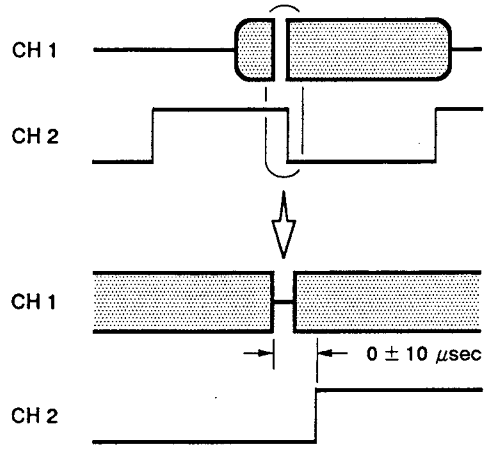
8-2-5. Drum Free Speed Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: No signal • Use the Hi8 MP tape. • REC mode	TP101/SE-10P (D-6) 1.9 ± 0.1Vdc	⊘ RV102/SE-10P (E-6)

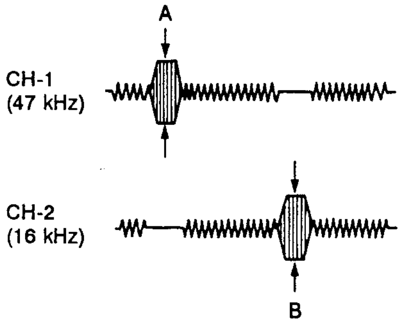
8-2-6. Capstan Free Speed Adjustment

Machine condition for adjustment	Specifications	Adjustments
Step 1 (SP mode) - Connect TP201/SE-10P (H-3) to ground with electrolytic capacitor (100 μF/10V) during STOP mode.  - Connect TP002/SE-10P (D-6) to ground with jumper wire during STOP mode. - Play back the alignment tape WR5-8CSE. - After adjustment, remove the jumper wire and capacitor.	TP105/SE-10P (D-4) 1341 ± 1 Hz	⊘ RV106/SE-10P (D-5)
Step 2 (LP mode) - Connect TP201/SE-10P (H-3) to ground with electrolytic capacitor (100 μF/10V) during STOP mode.  - Connect TP002/SE-10P (D-6) to ground with jumper wire during STOP mode. - Connect pin 4 of CN901/SE-10P (A-5) to ground with jumper wire during STOP mode. - Play back the alignment tape WR5-8CSE. - After adjustment, remove the jumper wire and capacitor.	TP105/SE-10P (D-4) 670 ± 1 Hz	⊘ RV105/SE-10P (D-5)

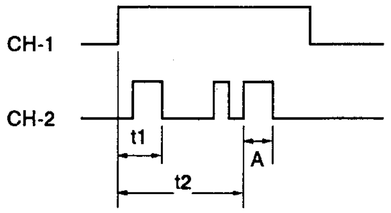
8-2-7. Switching Position Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the alignment tape WR5-1CP.	CH-1: CN004-4/FR-43 (A-2) CH-2: CN004-2/FR-43 (A-2) 	⊘RV101/SE-10P (C-6) TRIG: CN004-2/FR-43 (A-2)

8-2-8. ATF BPF Balance Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Connect TP208/SE-10P (H-3) to ground with jumper wire. • VIDEO IN : color-bar signal • Preform the self-recording /play back with a Hi8 ME tape. • After adjustment, remove the jumper wire.	CH-1: IC201-7/SE-10P (G-4) CH-2: IC201-6/SE-10P (G-4)  B=A	⊘RV201/SE-10P (G-4) TRIG: TP103/SE-10P (F-3)

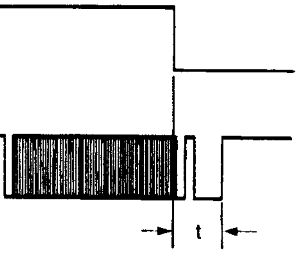
8-2-9. STILL Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN : color-bar signal • Perform the self-recording/play back with a Hi8 ME tape. • Put the unit into the PAUSE mode and measure the pulse width of A portion. • Advance one frame and perform adjustment if the pulse width of A is narrow. If it is wide, advance the frame for one more frame and perform adjustment by observing narrower pulse width.	CH-1: TP103/SE-10P (F-3) CH-2: TP204/SE-10P (F-5)  t1=4.8 ± 0.1msec t2=13.6 ± 0.1msec	t1 ⊘ RV203/SE-10P (H-3) t2 ⊘ RV204/SE-10P (H-3) TRIG: TP103/SE-10P (F-3)

8-2-10. Slow Tracking Center Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Set the slow adjustment control (RV001/FB-169P) to the center click position.	**Step 1** Measure DC voltage (A) of W001-5/FB-169 (G-3). **Step 2** Decrease the DC voltage (B) of W002-10/FB-169 (E-3) to the half of DC voltage (A) with RV002. $B=\frac{A}{2} \pm 0.01$ (Vdc)	⊘ RV002/FB-169P

8-2-11. SP Slow Adjustment

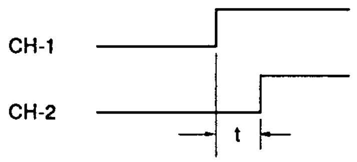
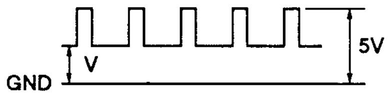
Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN : color-bar signal • Using P5-MP series tape, perform the short recording of the color-bar signal at the end of tape. • Connect TP001/SE-10P (C-2) to ground with jumper wire. • Playback the recorded portion with SLOW (×1/5 speed) mode. • When the noise appears on the monitor screen, adjust RV104 temporarily. • When the noise appears on the monitor screen, adjust RV104 so that noise at the bottom of the screen disappears. • After adjustment, remove the jumper wire.	CH-1: TP302/SE-10P (F-3) CH-2: TP105/SE-10P (D-4)  t=minimum	⊘ RV304/SE-10P (E-2) ⊘ RV104/SE-10P (D-5) TRIG: TP302/SE-10P (F-3)

8-2-12. LP Slow Adjustment

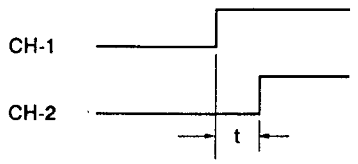
Note: This adjustment should be performed after completion of "8-2-11. SP Slow Adjustment".

Machine condition for adjustment	Specifications	Adjustments
• Connect pin 4 of CN901/SE-10P (A-5) to ground with jumper wire. • VIDEO IN : color-bar signal • Perform the a short recording of the color-bar signal at the end of P5-MP series tape. • Connect TP001/SE-10P (C-2) to ground with jumper wire. • Playback the recorded portion with SLOW (×1/5 speed). • After adjustment, remove jumper wires.	Adjust RV103 so that the noise at the bottom of the screen disappears.	⊘ RV103/SE-10P (E-5)

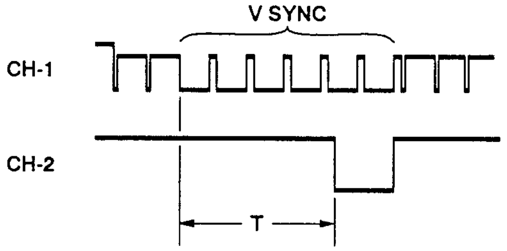
8-2-13. SP Slow fH Adjustment

Machine condition for adjustment	Specifications	Adjustments
Step 1 • Perform the short recording of the color-bar signal with a Hi8 ME tape. • Play back the recorded portion with SLOW (×1/30 speed). SLOW (×1/30 speed): Short-circuit pin 5 of CN901 /SE-10P (A-5) to ground for one second with 6.2kΩ resistor.	CH-1: TP103/SE-10P (F-3) CH-2: TP102/SE-10P (D-5)  t=580 ± 10 μsec	⊘ RV301/SE-10P (F-1)
Step 2 • Perform the short recording of the color-bar signal with a Hi8 ME tape. • Play back the recorded portion with SLOW (×1/5 speed). SLOW (×1/5 speed): Press SLOW button or short-circuit pin 5 of CN901/SE-10P (A-5) to ground for one second with 3.6kΩ resistor.	TP301/SE-10P (E-2)  V=1.5 ± 0.1 Vdc	⊘ RV303/SE-10P (E-1)

8-2-14. LP Slow fH Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Connect pin 4 of CN901/SE-10P (A-5) to GND with jumper wire. (LP mode) • Perform the short recording of the color-bar signal with a Hi8 ME tape. Play back the recorded portion with SLOW (×1/5 speed).	CH-1: TP103/SE-10P (F-3) CH-2: TP102/SE-10P (D-5)  t=580 ± 10 μsec	⊘ RV302/SE-10P (F-2)

8-2-15. REF VD Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: Color-bar signal	CH-1: CN906-2/IF-39 CH-2: CN904-1/IF-39  T=136.7 ± 5 μsec	⊘ RV901/IF-39

8-2-16. Picture Splitting Adjustment

Machine condition for adjustment	Specifications	Adjustments
	Set RV802 and RV803 on the MD-23P board to the mechanical center position,	⊘ RV802/MD-23P (A-2) ⊘ RV803/MD-23P (A-2)

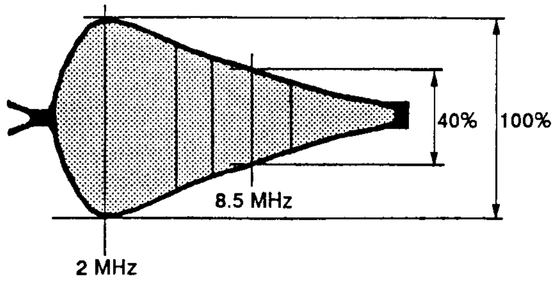
8-3. VIDEO SIGNAL SYSTEM ADJUSTMENT

8-3-1. Equipment Required

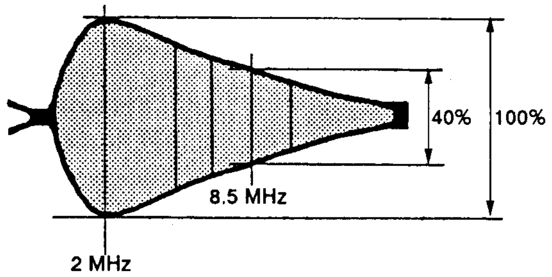
- Oscilloscope
- Frequency counter
- Pattern generator
- Digital voltmeter

Name (Part No.)	REC mode	Tape Type	Tape Speed	Contents	
				Video Area	PCM Area
Video freq. resp. WR5-7CE (8-967-995-18)	Hi8	ME	LP	RF sweep 0 to 15 MHz Marker: 2.0 MHz 4.5 MHz 7.0 MHz 8.5 MHz 10.0 MHz	
SP operation check WR5-5CSP (8-967-995-47)	STD	MP	SP	VIDEO SIGNAL Color-bar: 4 min. Monoscope: 4 min. AUDIO SIGNAL (AFM) 400 Hz, 60% modulation	AUDIO SIGNAL (PCM) • Monoscope Section 20 Hz: 20 sec. 400 Hz: 20 sec. 14 kHz: 20 sec. • Color-Bar Section 1 kHz: 4 min.
SP operation check WR5-8CSE (8-967-995-48)	Hi8	ME	SP		AUDIO SIGNAL (PCM) 400 Hz: 20 min.
LP operation check WR5-8CLE (8-967-995-57)	Hi8	ME	LP	VIDEO SIGNAL Color-bar: 4 min. Monoscope: 4 min. AUDIO SIGNAL (AFM) 400 Hz, 60% modulation	

8-3-2. SP PB Frequency Response Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Connect TP104/SE-10P (D-4) to ground with a jumper wire. • Play back the alignment tape WR5-7CE. • After adjustment, remove the jumper wire.	CN004-3/FR-43 (A-2)  8.5 MHz=32^{+4}_{-0}% (in reference to 2 MHz)	⊘ RV004/RP-103 (SP) TRIG: CN004-2/FR-43 (A-2) TRIG. SLOPE: –
	CN004-4/FR-43 (A-2) 8.5 MHz=32^{+4}_{-0}% (in reference to 2 MHz)	⊘ RV003/RP-103 (SP) TRIG: CN004-2/FR-43 (A-2) TRIG. SLOPE: +

8-3-3. LP PB Frequency Response Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the alignment tape WR5-7CE.	CN004-5/FR-43 (A-2)  8.5 MHz=30^{+4}_{-0}% (in reference to 2 MHz)	⊘ RV004/RP-73 (LP) TRIG: CN004-2/FR-43 (A-2) TRIG. SLOPE: +
	CN004-6/FR-43 (A-2) 8.5 MHz=30^{+4}_{-0}% (in reference to 2 MHz)	⊘ RV003/RP-73 (LP) TRIG: CN004-2/FR-43 (A-2) TRIG. SLOPE: –

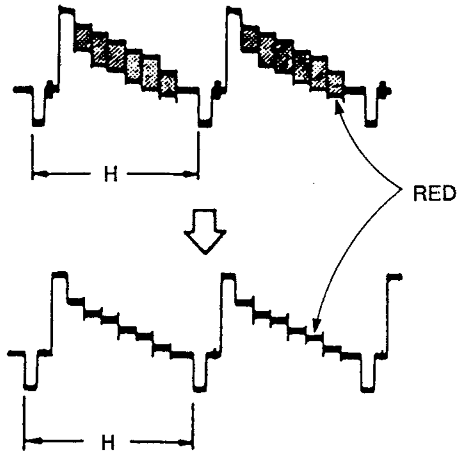
8-3-4. Flying Erase Confirmation

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN : color-bar signal • Use a Hi8 ME tape. • REC mode	TP041/FR-43 (C-1) 8.0 ± 0.5 MHz	

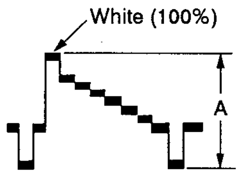
8-3-5. SubCarrier Frequency Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: no signal • PB mode	CN914-7/HK-5 (H-3) 4433618 ± 50 Hz	⊘ CV601/HK-5 (B-4)

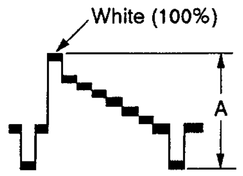
8-3-6. PB C Comb Filter Adjustment

Machine condition for adjustment	Specifications	Adjustments
• When adjusting the recorder, disconnect CN911/HK-5 (H-2). • Supply the composite color-bar signal (Y=0.5 Vp-p, burst=0.15 Vp-p) to CN911-4/HK-5 (H-2). • E-E mode • After adjustment, connect the CN911.	IC501-26/HK-5 (B-3)  Minimize residual chroma component at RED portion (30 mVp-p or less)	⊘ RV502/HK-5 (B-2) ⊘ LV501/HK-5 (D-3)

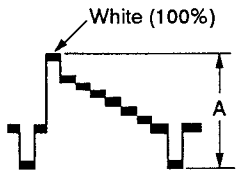
8-3-7. SYNC AGC Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color-bar signal • E-E mode	TP402/HK-5 (E-3)  A=0.50 ± 0.02 Vp-p	⊘ RV302/HK-5 (E-1)

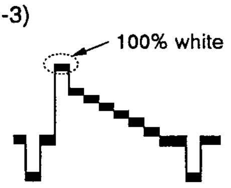
8-3-8. AGC Output Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color-bar signal • E-E mode	TP301/HK-5 (D-3)  A=0.50 ± 0.02 Vp-p	⊘ RV405/HK-5 (C-1)

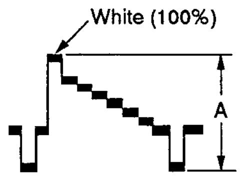
8-3-9. STD Mode PB Y Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color-bar signal portion of the alignment tape WR5-5CSP.	TP302/HK-5 (D-3)  A=0.50 ± 0.02 Vp-p	⊘ RV304/HK-5 (E-3)

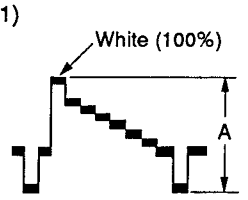
8-3-10. PB De-emphasis Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color-bar signal portion of the alignment tape WR5-5CSP.	TP302/HK-5 (D-3)  100% white level=makes flat	⊘ RV303/HK-5 (D-2)

8-3-11. Hi8 Mode PB Y Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color-bar signal portion of the alignment tape WR5-8CSE.	TP302/HK-5 (D-3)  A=0.50 ± 0.02 Vp-p	⊘ RV305/HK-5 (E-3)

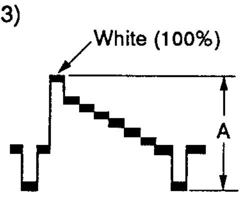
8-3-12. E-E Y Output Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
At recorder adjustment: • VIDEO IN: color-bar signal • E-E mode	TP303/HK-5 (E-1)  A=1.00 ± 0.05 Vp-p	⊘ RV301/HK-5 (E-1)

8-3-13. STD Mode Y FM Carrier Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: no signal • Use a P5-MP series tape. • E-E mode	TP401/HK-5 (D-3) 4.37 ± 0.02 MHz	⊘ RV402/HK-5 (D-2)

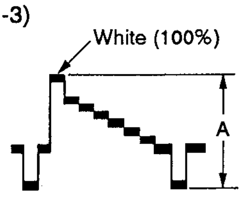
8-3-14. STD Mode Y FM Deviation Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color-bar signal • Preform the self-recording/play back with a P5-MP series tape.	TP302/HK-5 (D-3)  A=0.50 ± 0.02 Vp-p • Repeat recording and play back several times until the level meets the specification. Adjust the RV403 during recording.	⊘ RV403/HK-5 (E-2) When turning in the clockwise direction, the level decreases.

8-3-15. Hi8 Mode Y FM Carrier Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: no signal • Use Hi8 ME tape. • E-E mode	TP401/HK-5 (D-3) 5.95 ± 0.02 MHz	⊘ RV401/HK-5 (D-2)

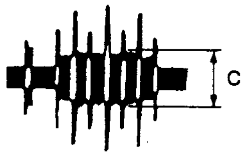
8-3-16. Hi8 Mode Y FM Deviation Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color-bar signal • Preform the self-recording/play back with a Hi8 ME tape.	TP302/HK-5 (D-3)  A=0.50 ± 0.02 Vp-p • Repeat recording and play back several times until the level meets the specification. Adjust RV404 during recording.	⊘ RV404/HK-5 (D-2) When turning in the clockwise direction, the level decreases.

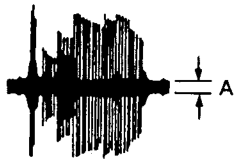
8-3-17. $375f_H$ VCO Adjustment

Machine condition for adjustment	Specifications	Adjustments
At recorder adjustment: • VIDEO IN: Color-bar signal • E-E mode	IC602-26/HK-5 (B-4) 3.0 ± 0.1Vdc	⊘ RV601/HK-5 (A-4)

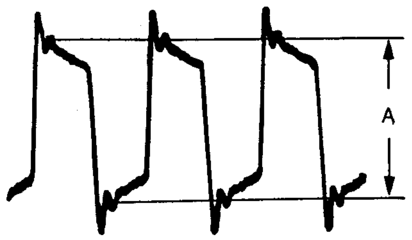
8-3-18. Chroma Emphasis f_0 Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Connect pin 47 of IC602 to TP902/HK-5 (F-5) via 10 k ohm resistor. • Connect pin 47 of IC602 to ground via 10 k ohm resistor. • VIDEO IN: color-bar signal • E-E mode • After adjustment, remove the resistor.	IC601-11/HK-5 (A-5)  C (chroma component)=minimum	⊘ T602/HK-5 (B-6)

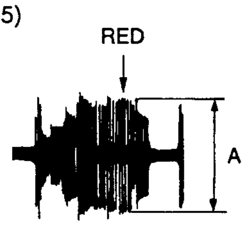
8-3-19. Carrier Balance Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: Color-bar signal • E-E mode	IC602-40/HK-5 (B-4)  A (5.17 MHz component)=minimum	⊘ RV602/HK-5 (A-5)

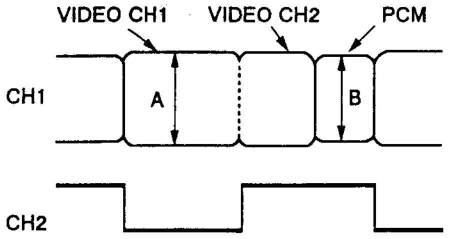
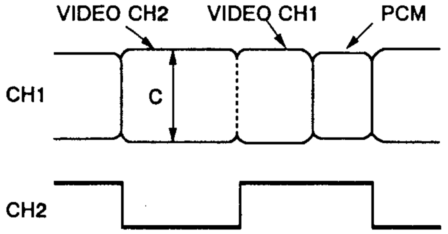
8-3-20. REC Y RF Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: no signal • Use a P5-MP tape • E-E mode	TP201/HK-5 (D-6)  A=0.50 ± 0.02 Vp-p	⊘ RV202/HK-5 (D-5)

8-3-21. REC C RF Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Perform following connections. Q211-emitter (F-5) ↔ TP904/HK-5 (F-5) CN101-3 (C-6) ↔ ground Q608-emitter (D-5) ↔ ground • VIDEO IN: color-bar signal • Use a Hi8 ME tape • E-E mode • After adjustment, remove the jumper wires.	TP201/HK-5 (F-5)  A=100 ± 10m Vp-p	⊘ RV201/HK-5 (C-5)

8-3-22. SP REC Current Adjustment

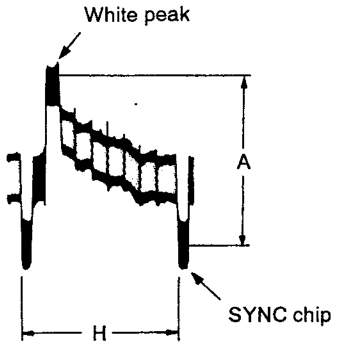
Machine condition for adjustment	Specifications	Adjustments
STEP 1 • VIDEO IN: No signal • Use Hi8 ME tape • REC mode	CH1: TP001/FR-43 (A-1) CH2: CN004-2/FR-43 (A-2)  A (VIDEO CH1)=220 ± 10 mV B (PCM)=220 ± 10 mV	VIDEO CH1 ⊘ RV002/FR-43 (C-2) PCM ⊘ RV002/RP103 TRIG: CN004-2/FR-43 (A-2)
STEP 2 • VIDEO IN: No signal • Use Hi8 ME tape • REC mode	CH1: Pin 20 of RP-103 CH2: CN004-2/FR-43 (A-2)  C(VIDEO CH2)=220 ± 10 mV	VIDEO CH2 ⊘ RV001/FR-43 (D-2) TRIG: CN004-2/FR-43 (A-2)

Note: LP recording current adjustment (RV001, RV002/RP-73) is not required.

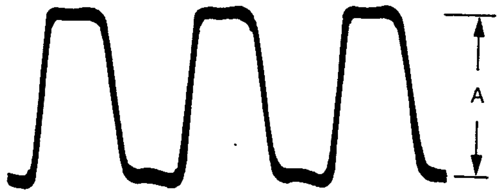
8-3-23. DOC Level Adjustmnt

Machine condition for adjustment	Specifications	Adjustments
• Play back the alignment tape WR5-8CLE.	Q182-3 (base)/HK-5 (H-3) +1.85 ± 0.01 Vdc	⊘ RV101/HK-5 (H-4)

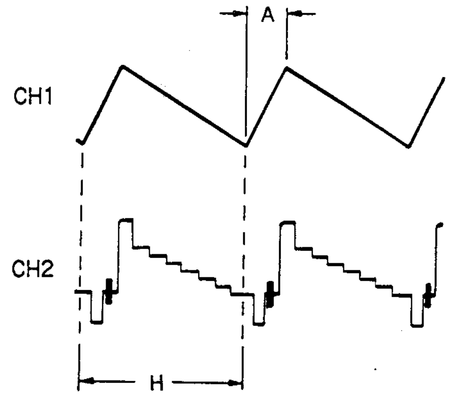
8-3-24. Comb AGC Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: Color-bar signal • E-E mode **Note:** Be sure to connect a 22 kΩ of resistor in series between TP501 and 10:1 probe.	TP501/HK-5 (C-2)  A=0 ± 100 mVp-p	⊘ RV501/HK-5 (B-2)

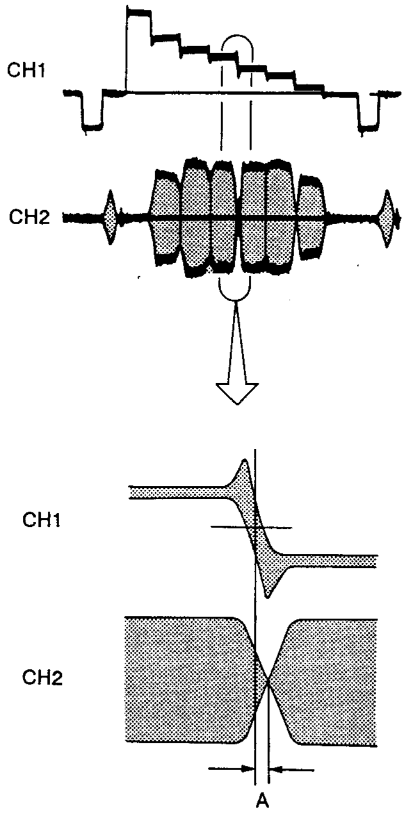
8-3-25. GCA GAIN Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the alignment tape WR5-8CSE.	IC801-22/HK-5 (A-3)  A=500 ± 25 mV	⊘ RV801/HK-5 (A-3)

8-3-26. fH VCO Adjustment

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: Color-bar signal • E-E mode **Note:** Confirm that CH1 and CH2 waveform is stable.	CH1: IC801-14/HK-5 (A-3) CH2: TP303/HK-5 (E-1)  A=14.5 ± 0.2 μsec	⊘ RV802/HK-5 (A-3)

8-3-27. Y/C DELAY Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color bar portion of the alignment tape WR5-8CSE.	CH1: TP303/HK-5 (E-1) CH2: TP801/HK-5 (A-1)  Minimize the A	⊘ RV700/HK-5 (H-5)

8-4. VIDEO INPUT/OUTPUT CIRCUIT ADJUSTMENT

8-4-1. Instruments to be Used for Video Input/output Circuit Adjustment

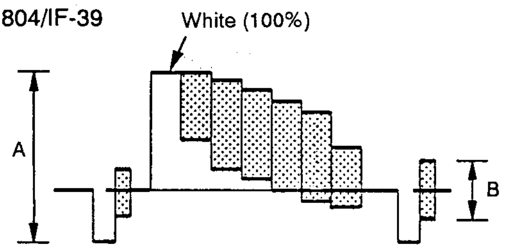
- Pattern generator (with S VIDEO output terminal)
- Oscilloscope
- Monitor TV
- Digital voltmeter
- Alignment tapes

Name (Part No.)	REC mode	Tape Type	Tape Speed	Contents	
				Video Area	PCM Area
SP operation check WR5-8CSE (8-967-995-48)	Hi8	ME	SP	VIDEO SIGNAL Color-bar: 4 min. Monoscope: 4 min. AUDIO SIGNAL (AFM) 400 Hz, 60% modulation	AUDIO SIGNAL (PCM) 400 Hz: 20 min.

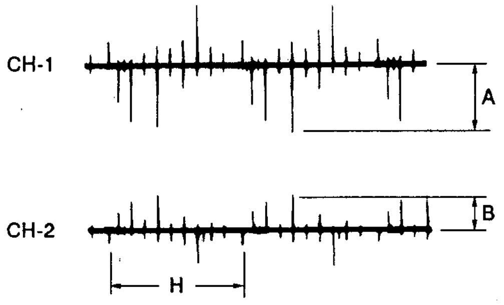
8-4-2. Switch Setting

Input select switch
At video signal input ································VIDEO
At S video signal input·····························S VIDEO

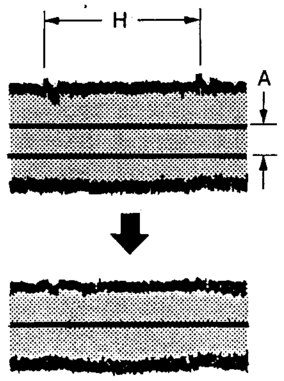
8-4-3. Y/C MIX Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• S VIDEO IN: Color-bar signal • VIDEO/S VIDEO select switch is set to S VIDEO position. • E-E mode	TP804/IF-39  A=1.00 ± 0.05 Vp-p B=300 ± 20 mVp-p	**Y level adjustment** ⊘ RV704/IF-39 **Chroma level adjustment** ⊘ RV705/IF-39

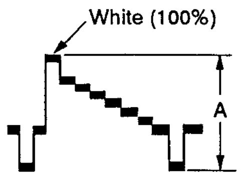
8-4-4. Noise Cancel +6 dB Amplifier Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color-bar section of alignment tape WR5-8CSE. • EDIT switch: ON	CH-1: TP602/IF-39 CH-2: TP604/IF-39  Peak level B×2=Peak level A	⊘RV601/IF-39

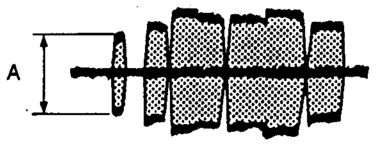
8-4-5. Limiter Cancel Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the monoscope section of the alignment tape WR5-8CSE.	CH-1: TP603/IF-39  A=Minimum	⊘RV602/IF-39 TRIG: CN902-1/IF-39

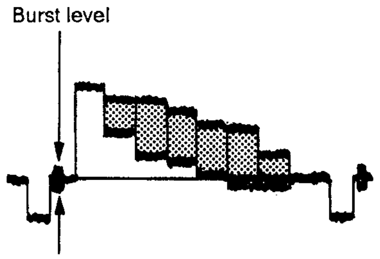
8-4-6. PB Y Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color-bar section of the alignment tape WR5-8CSE. • Terminate the Y signal terminal (Pin ③) of S VIDEO OUT (J401/TR-40) at 75Ω.	CN905-1/IF-39  A=1.00 ± 0.05 Vp-p	⊘RV401/IF-39

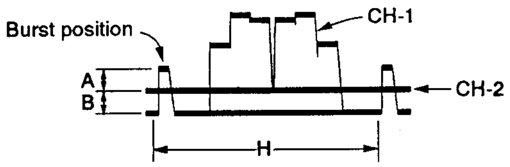
8-4-7. PB Chroma Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color-bar section of the alignment tape WR5-8CSE. • Terminate the chroma signal terminal (Pin ④) of S VIDEO OUT (J401/TR-40) at 75Ω .	CN905-3/IF-39  A=0.3 ± 0.02 Vp-p	⊘ RV402/IF-39

8-4-8. YX Filter Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Disconnect CN902/IF-39 and input the composite video signal at 30 mVp-p burst level to CN902-1/IF-39. • Set EDIT switch to ON. • Connect TP503 and GND with a jumper wire. • Play back the alignment tape WR5-8CSE. • Turn RV706/IF-39 fully counterclockwise (↺) seeing from component side. • After adjustment, connect the CN902 and remove the jumper wire.	TP705/IF-39  	⊘ RV702/IF-39 ⊘ RV703/IF-39
	STEP 1 Set RV702 to the mechanical center position to minimize the burst level with RV703.	
	STEP 2 Turn RV702 fully counterclockwise (↺) seeing from component side and measure the burst level at this time.	
	STEP 3 Slowly turn RV702 clockwise (↻) and stop at the position where the burst level becomes 1/4.	

8-4-9. YX Filter Chroma Control Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the color-bar section of the alignment tape WR5-8CSE. • EDIT switch is set to ON position.	**STEP 1** CH-1: TP709/IF-39 (DC range) CH-2: TP709/IF-39 (DC range) Overlap the waveforms of CH-1 and CH-2 with the position knob of oscilloscope.	⊘ RV706/IF-39
	STEP 2 CH-1: TP709/IF-39 (DC range) CH-2: TP711/IF-39 (DC range)  Adjust RV706 to be A=B. Level difference: 20% below	

8-5. AUDIO SIGNAL SYSTEM ADJUSTMENT

8-5-1. Equipment Required

- Oscilloscope
- Frequency counter
- Audio signal generator
- Audio level meter
- Pattern generator (for video input)
- Alignment tape

Name (Part No.)	REC mode	Tape Type	Tape Speed	Contents	
				Video Area	PCM Area
SP operation check WR5-8CSE (8-967-995-48)	Hi8	ME	SP	VIDEO SIGNAL Color-bar: 4 min. Monoscope: 4 min. AUDIO SIGNAL (AFM) 400 Hz, 60% modulation	AUDIO SIGNAL (PCM) 400 Hz: 20 min.
LP operation check WR5-8CLE (8-967-995-57)	Hi8	ME	LP	VIDEO SIGNAL Color-bar: 4 min. Monoscope: 4 min. AUDIO SIGNAL (AFM) 400 Hz, 60% modulation	AUDIO SIGNAL (PCM) 400 Hz: 20 min.

8-5-2. PCM Master Clock Adjustment

Note: Before adjustment, remove the PA-27 board.

Machine condition for adjustment	Specifications	Adjustments
• Connect pin 14 of IC853/PD-19P (A-1) and pin 11 of CN852/PD-19P (B-3) with jumper wire. • E-E mode • After the adjustment, remove jumper wire.	IC853-8/PD-19P (A-1) 11.45 ± 0.01 MHz	⊘ RV851/PD-19P (A-2)

8-5-3. PCM Playback VCO Free-Frequency Adjustment

Note: Before adjustment, remove the PA-27 board.

Machine condition for adjustment	Specifications	Adjustments
• Connect pin 9 of CN851/PD-19P (B-1) and pin 11 of CN852/PD-19P (C-3) with jumper wire. • Connect pins 7 and 8 of CN852/PD-19P (C-3) with jumper wire. • E-E mode • After the adjustment, remove jumper wires.	IC854-8/PD-19P (A-2) 11.58 ± 0.05 MHz	⊘ RV854/PD-19P (A-2)

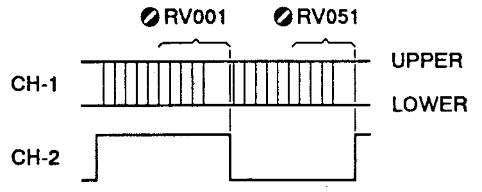
8-5-4. D/A Converter Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the Audio 400 Hz portion of the alignment tape WR5-8CSE.	CN001-16/PA-27 (A-2) –10.0 ± 0.2 dBs	⊘ RV032/PA-27 (A-1)

8-5-5. NR Decode Level Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Play back the Audio 400 Hz portion of the alignment tape WR5-8CSE.	CN001-20/PA-27 (A-3) –14.0 ± 0.5 dBs • If adjustment value doesn't meet the specification, change the value of resistors as follows and perform adjustment again. R062 12k→13k R012 12k→13k	⊘ RV031/PA-27 (C-1)

8-5-6. A/D Converter Offset Adjustment

Machine condition for adjustment	Specifications	Adjustments
• Connect pin 8 of CN001/PA-27 (A-2) to pin 17 of CN001/PA-27 (A-2) with jumper wire. • Connect pins 15 and 18 of CN001 with jumper wire. • Connect pins 4 and 3 of CN001 with jumper wire. • REC mode (no signal input) • After adjustment, remove jumper wires.	CH-1: CN001-11/PA-27 (A-2) CH-2: CN001-9/PA-27 (A-2)  Adjust upper and lower brightnesses for the same.	L-CH ⊘ RV001/PA-27 (B-2) R-CH ⊘ RV051/PA-27 (B-1)

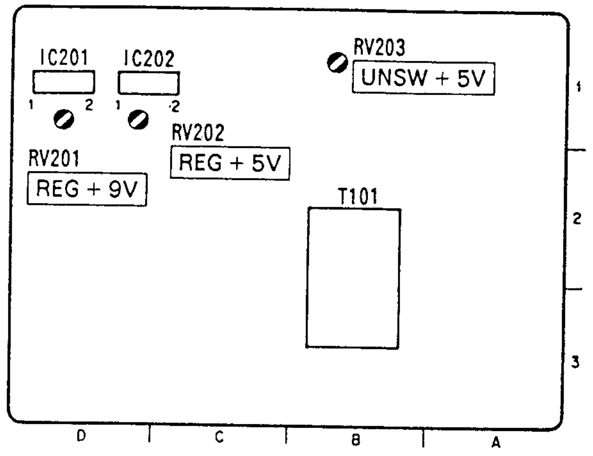
8-5-7. PCM REC Level Adjustment

Note: This adjustment should be performed after completion of "8-5-5. NR Decoded Level Adjustment".

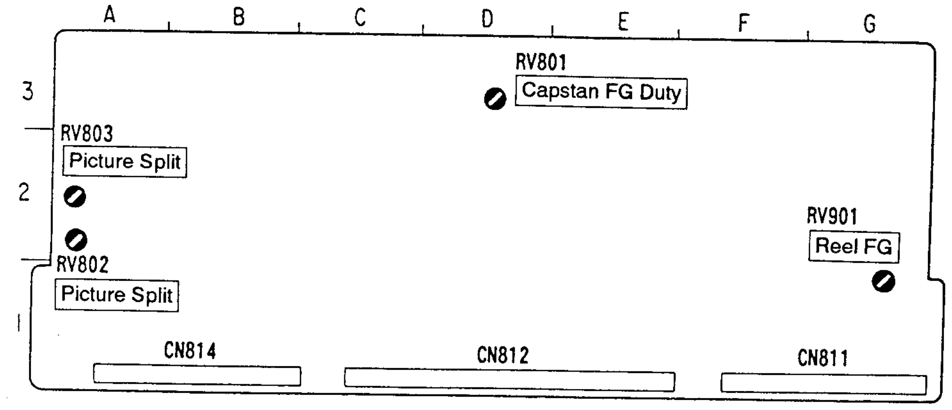
Machine condition for adjustment	Specifications	Adjustments
• AUDIO LINE IN: 400 Hz/–7.5 dBs • Set the REC LEVEL L and R knobs to the center click position. • Confirm that the signal levels of CN001-20/PA-27 (A-3) and CN001-1/PA-27 (A-1) are –18 dBs in the E-E mode. • Preform the self-recording/play back with a Hi8 ME tape.	L-CH: CN001-20/PA-27 (A-3) –14.0 ± 0.1 dBs	L-CH ⊘ RV002/PA-27 (B-3)
	R-CH: CN001-1/PA-27 (A-1) –14.0 ± 0.1 dBs	R-CH ⊘ RV052/PA-27 (B-1)

8-6. ADJUSTMENT RELATED PARTS ARRANGEMENT DIAGRAMS

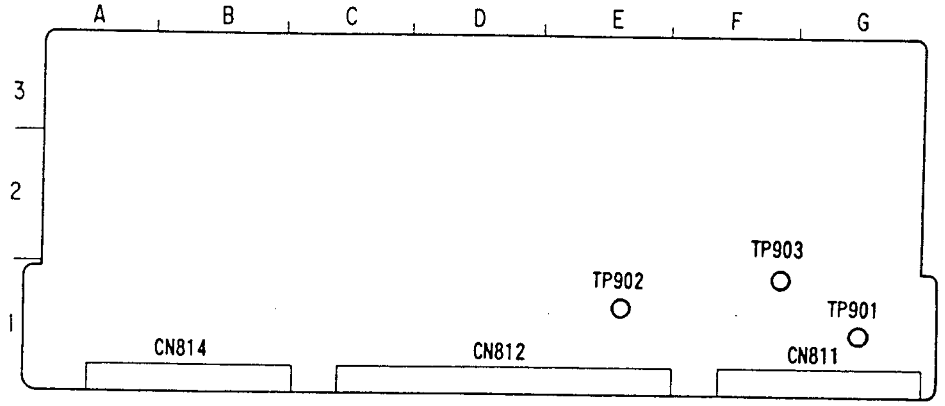
RV's on the Power Supply Block Location (Component Side)


IC201
IC202
1
2
1
2
RV201
REG + 9V
RV202
REG + 5V
RV203
UNSW + 5V
T101
1
2
3
D
C
B
A

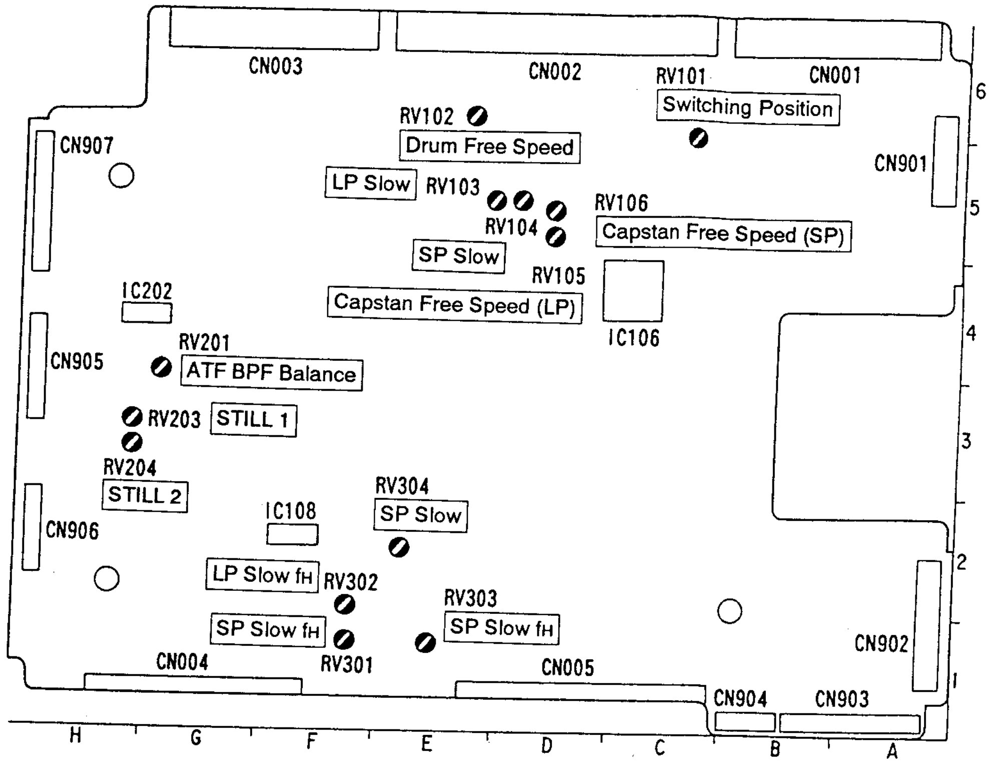
RV's on the MD-23P Board Location (Component Side)


A
B
C
D
E
F
G
3
2
1
RV801
Capstan FG Duty
RV803
Picture Split
RV802
Picture Split
RV901
Reel FG
CN814
CN812
CN811

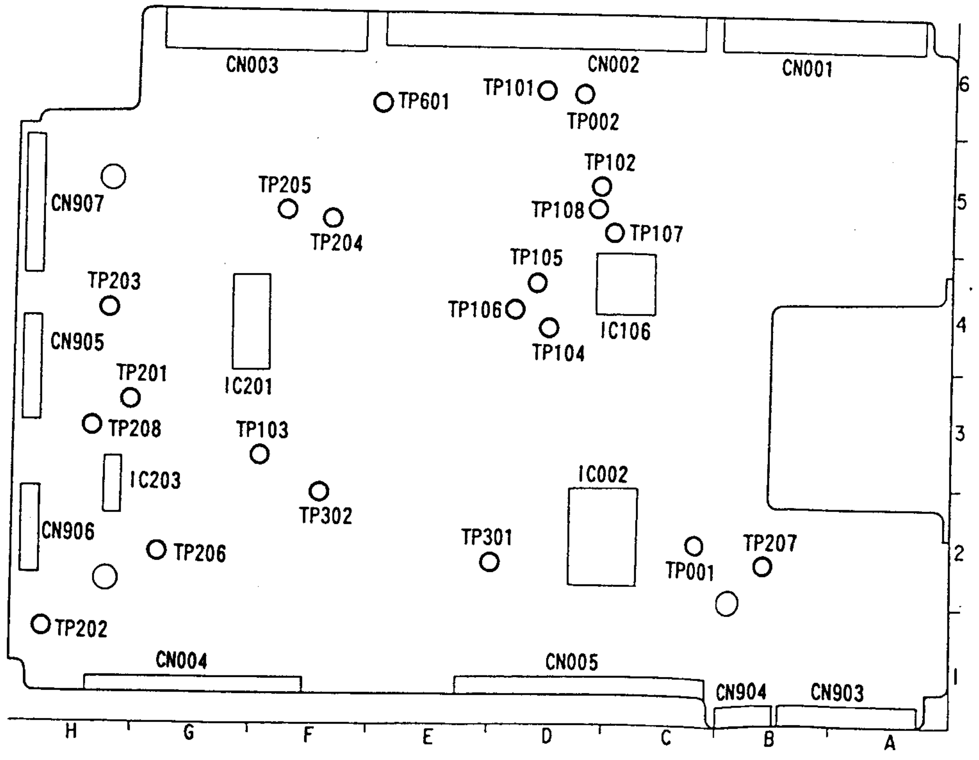
TP's on the MD-23P Board Location (Component Side)


A
B
C
D
E
F
G
3
2
1
TP902
TP903
TP901
CN814
CN812
CN811

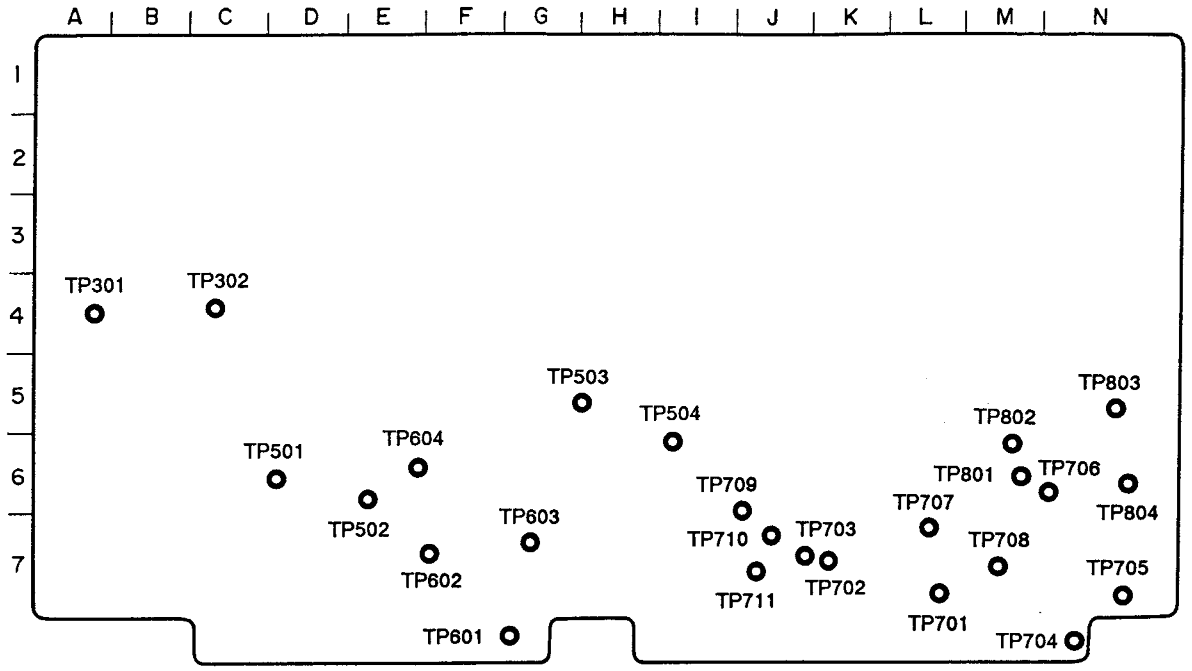
TP's on the SE-10P Board Location (Component Side)


CN003
CN002
CN001
RV101
Switching Position
RV102
Drum Free Speed
CN907
CN901
LP Slow
RV103
RV104
RV106
Capstan Free Speed (SP)
SP Slow
RV105
IC202
Capstan Free Speed (LP)
IC106
RV201
ATF BPF Balance
CN905
RV203
STILL 1
RV204
STILL 2
RV304
SP Slow
IC108
CN906
LP Slow fH
RV302
RV303
SP Slow fH
SP Slow fH
RV301
CN004
CN005
CN902
CN904
CN903
H
G
F
E
D
C
B
A
6
5
4
3
2
1

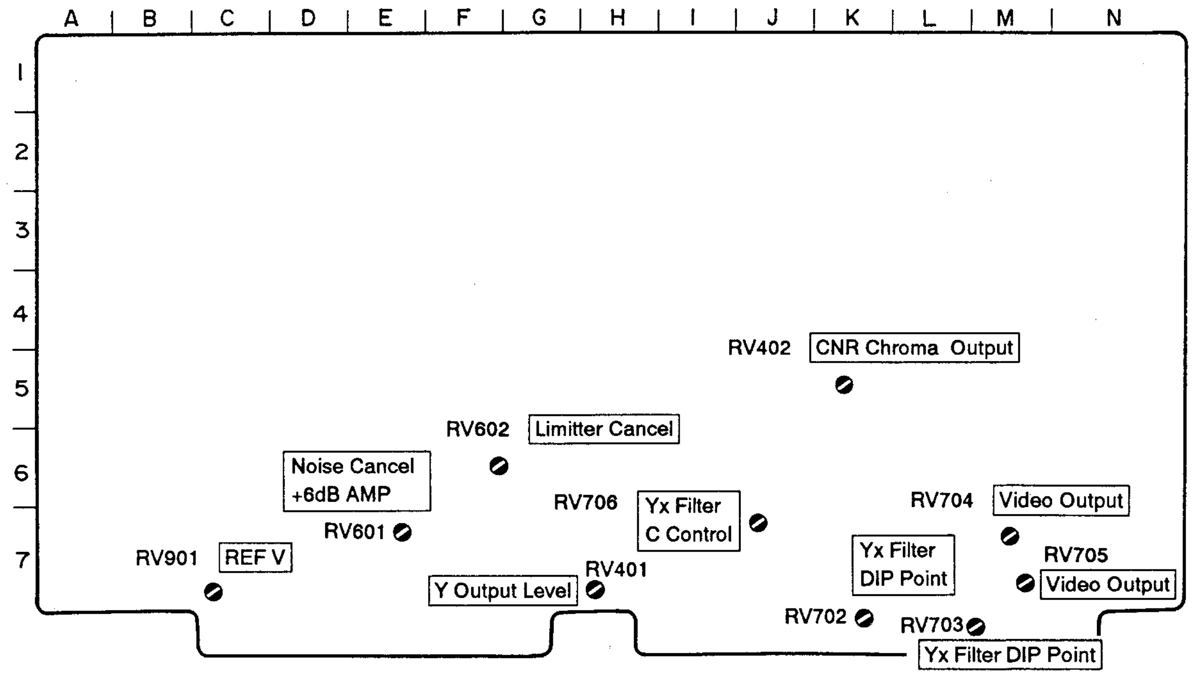
RV's on the SE-10P Board Location (Component Side)


CN003
CN002
CN001
TP601
TP101
TP002
CN907
TP205
TP204
TP102
TP108
TP107
TP105
TP203
TP106
IC106
TP104
CN905
TP201
IC201
TP208
TP103
IC203
TP302
IC002
CN906
TP206
TP301
TP001
TP207
TP202
CN004
CN005
CN904
CN903
H
G
F
E
D
C
B
A
6
5
4
3
2
1

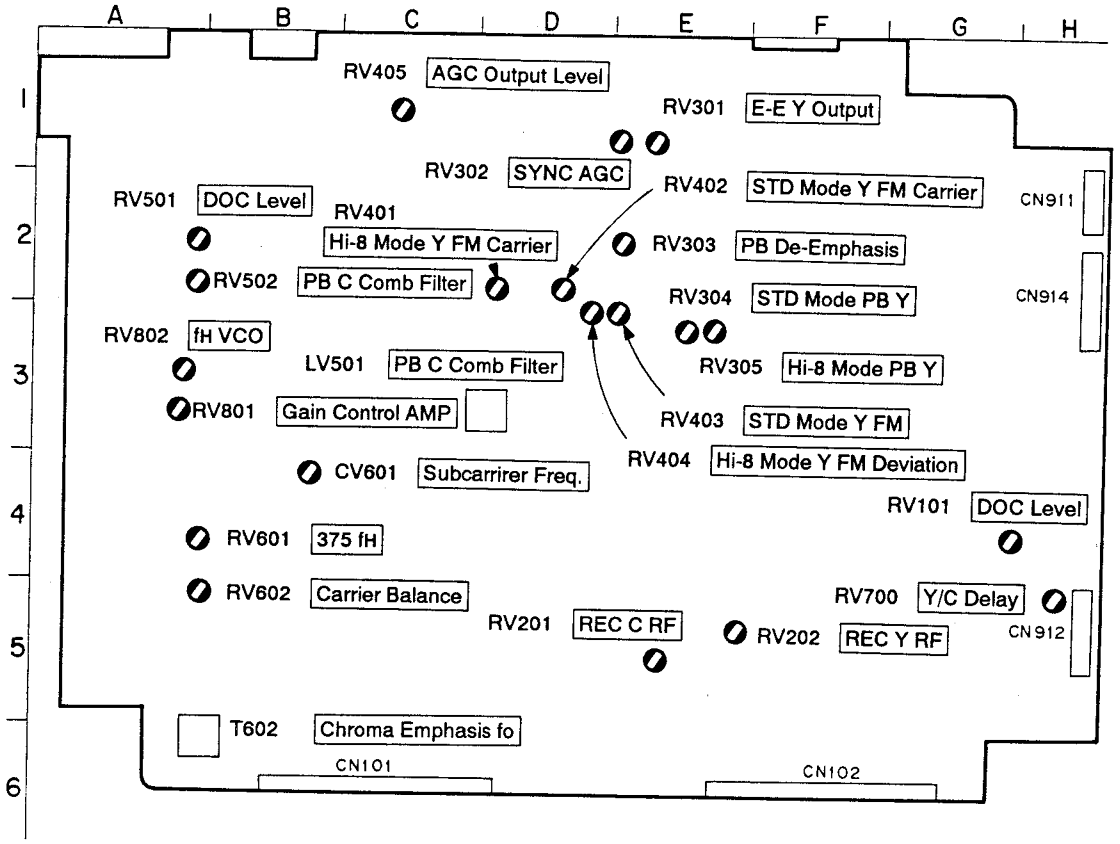
TP's on the IF-39 Board Location
(Component Side)


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
TP301
TP302
TP503
TP803
TP504
TP802
TP501
TP604
TP801
TP706
TP709
TP707
TP804
TP502
TP603
TP710
TP703
TP708
TP602
TP705
TP711
TP702
TP601
TP701
TP704

RV's on the IF-39 Board Location
(Component Side)

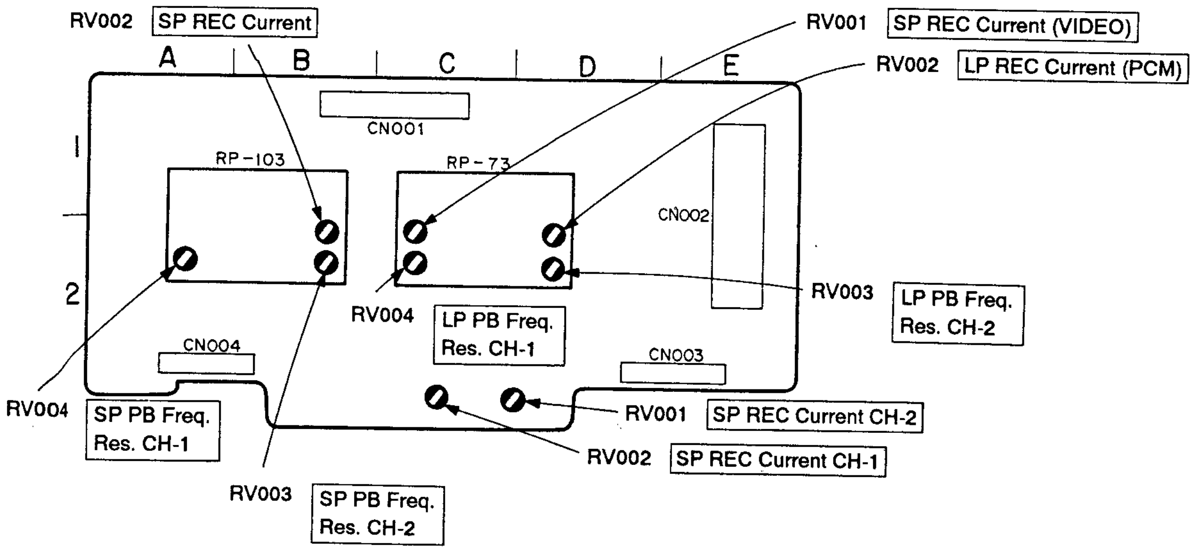

A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
RV402
CNR Chroma Output
RV602
Limitter Cancel
Noise Cancel
+6dB AMP
RV706
Yx Filter
C Control
RV704
Video Output
RV601
RV901
REF V
RV401
Y Output Level
Yx Filter
DIP Point
RV705
Video Output
RV702
RV703
Yx Filter DIP Point

RV's on the HK-5 Board Location


A
B
C
D
E
F
G
H
1
2
3
4
5
6
RV405
AGC Output Level
RV301
E-E Y Output
RV302
SYNC AGC
RV402
STD Mode Y FM Carrier
CN911
RV501
DOC Level
RV401
Hi-8 Mode Y FM Carrier
RV303
PB De-Emphasis
RV502
PB C Comb Filter
RV304
STD Mode PB Y
CN914
RV802
fH VCO
LV501
PB C Comb Filter
RV305
Hi-8 Mode PB Y
RV801
Gain Control AMP
RV403
STD Mode Y FM
CV601
Subcarrirer Freq.
RV404
Hi-8 Mode Y FM Deviation
RV101
DOC Level
RV601
375 fH
RV602
Carrier Balance
RV700
Y/C Delay
RV201
REC C RF
RV202
REC Y RF
CN912
T602
Chroma Emphasis fo
CN101
CN102

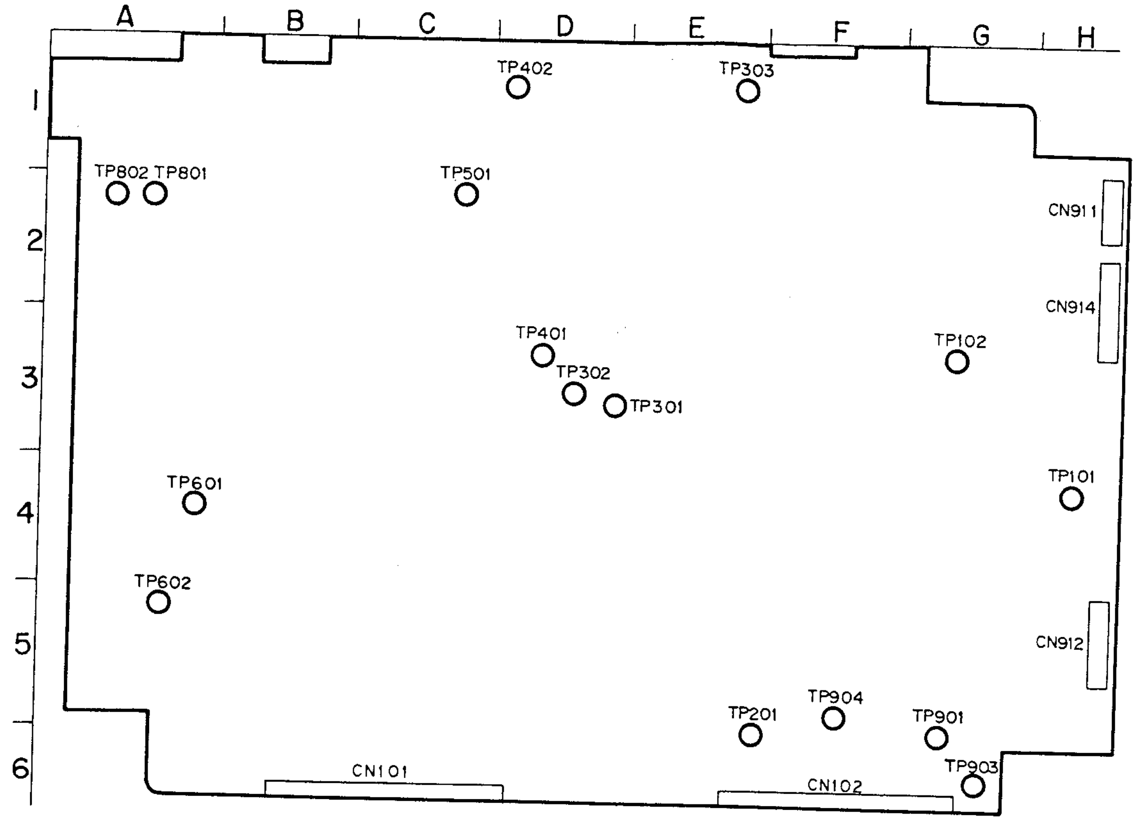
Place the unit on its right side down. Remove the Bottom Plate and Core Shild Plate. Open the HK-5 Board.

RV's on the FR-43, and RP-73, RP-103 Board Location


RV002
SP REC Current
RV001
SP REC Current (VIDEO)
RV002
LP REC Current (PCM)
A
B
C
D
E
1
2
CN001
RP-103
RP-73
CN002
RV003
LP PB Freq.
Res. CH-2
RV004
LP PB Freq.
Res. CH-1
CN004
CN003
RV004
SP PB Freq.
Res. CH-1
RV001
SP REC Current CH-2
RV002
SP REC Current CH-1
RV003
SP PB Freq.
Res. CH-2

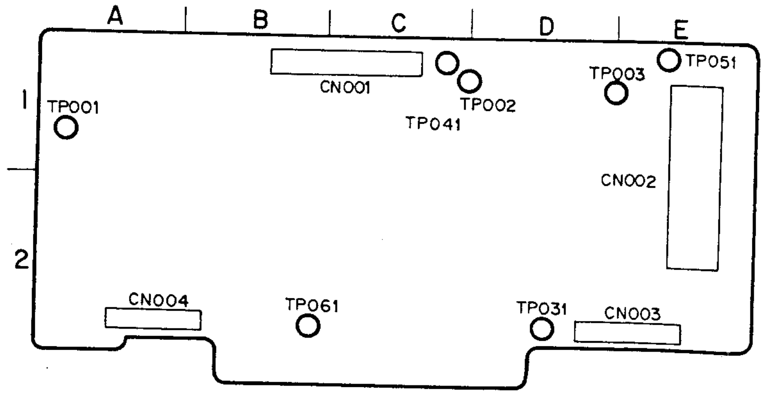
Remove the Top Plate and Open the MB-19 Board.

TP's on the HK-5 Board Location


A
B
C
D
E
F
G
H
1
2
3
4
5
6
TP402
TP303
TP802
TP801
TP501
CN911
CN914
TP401
TP302
TP301
TP102
TP601
TP101
TP602
CN912
TP201
TP904
TP901
TP903
CN101
CN102

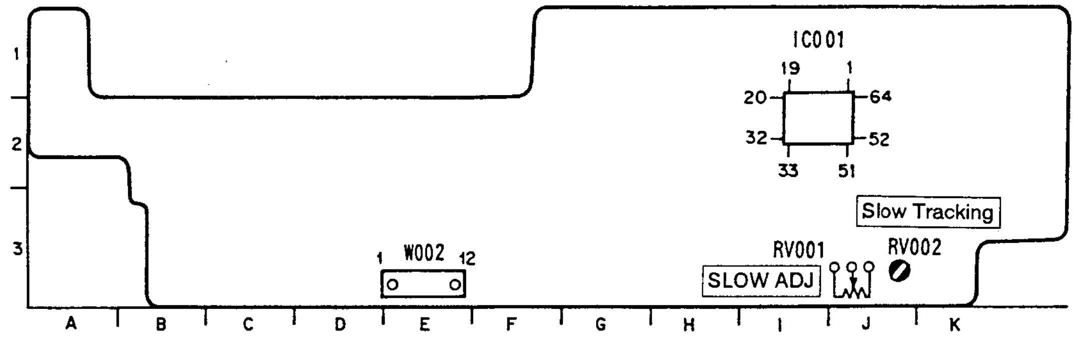
Place the unit on its right side down. Remove the Bottom Plate and Core Shild Plate. Open the HK-5 Board.

TP's on the FR-43 Board Location

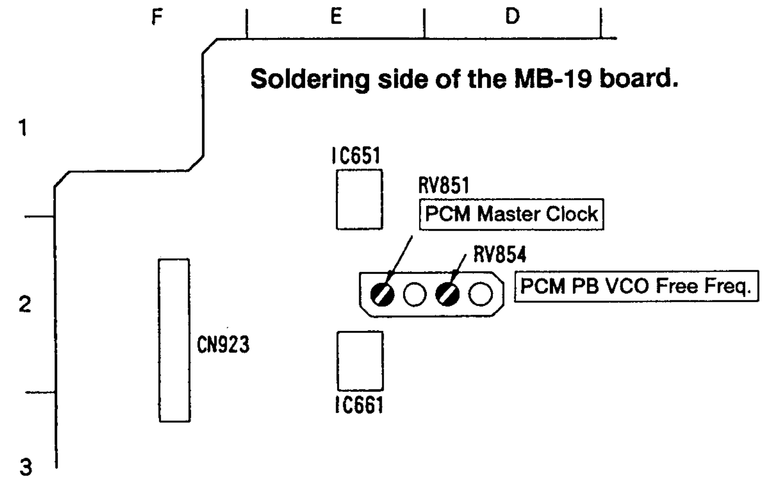

A
B
C
D
E
1
2
TP001
CN001
TP002
TP041
TP003
TP051
CN002
CN004
TP061
TP031
CN003

Remove the Top Plate and Open the MB-19 Board.

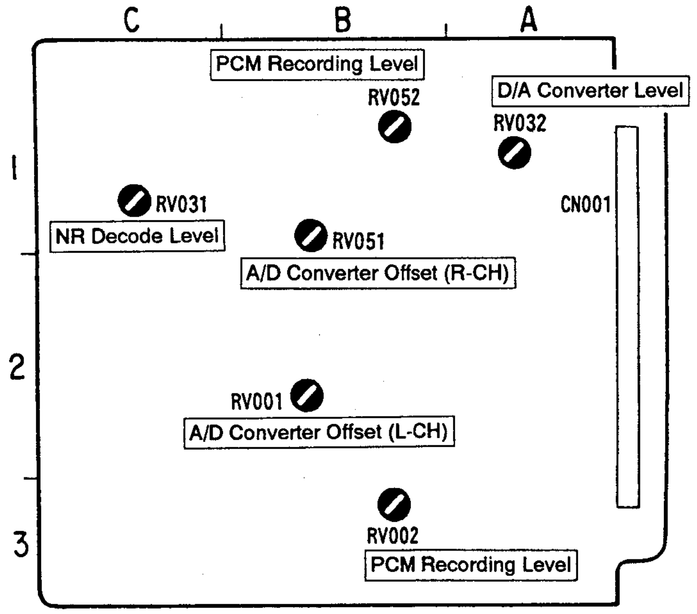
RV's on the FB-169P Board Location
(Component Side)


IC001
19
1
20
64
32
52
33
51
Slow Tracking
RV001
RV002
SLOW ADJ
1
W002
12
1
2
3
A
B
C
D
E
F
G
H
I
J
K

RV's on the PD-19P Board Location


F
E
D
Soldering side of the MB-19 board.
1
2
3
IC651
RV851
PCM Master Clock
RV854
PCM PB VCO Free Freq.
CN923
IC661

RV's on the PA-27 Board Location
(Component Side)


C
B
A
PCM Recording Level
RV052
D/A Converter Level
RV032
1
RV031
NR Decode Level
CN001
RV051
A/D Converter Offset (R-CH)
2
RV001
A/D Converter Offset (L-CH)
3
RV002
PCM Recording Level